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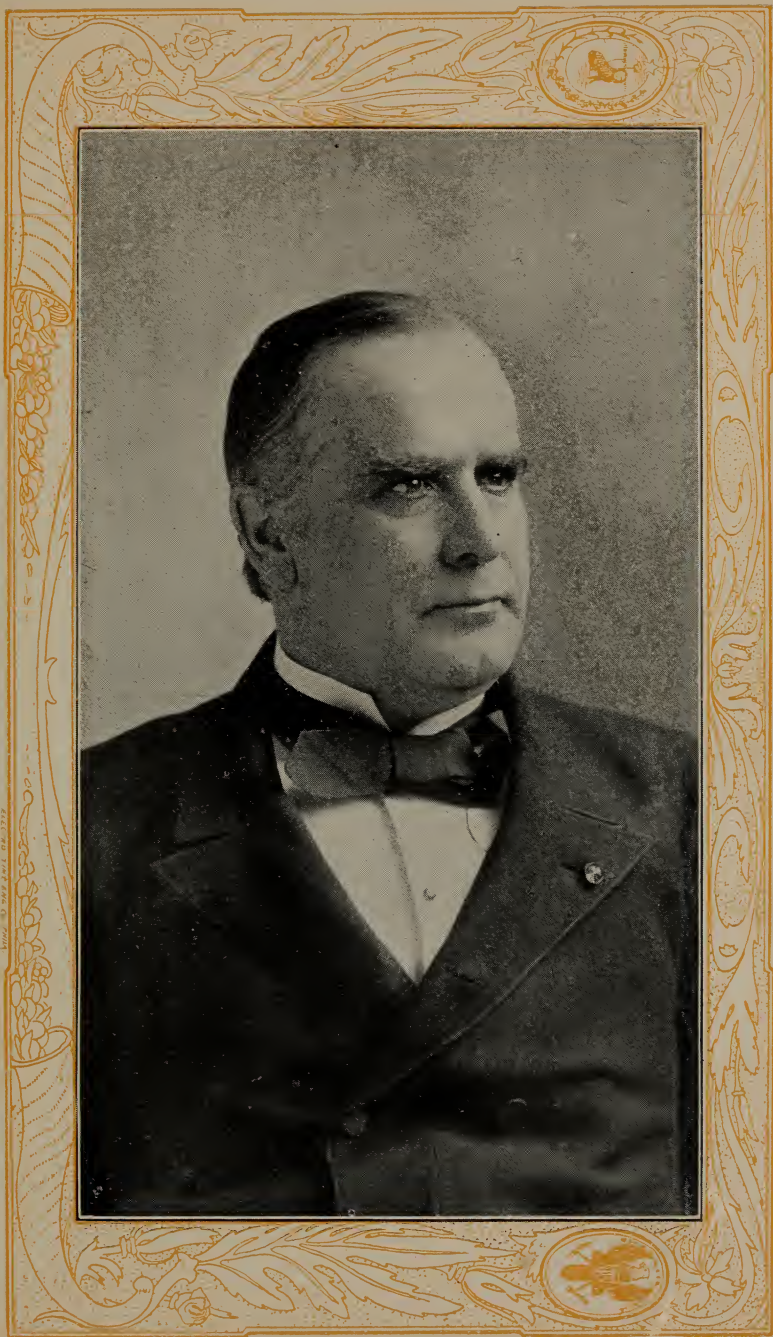
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Señor Don Emilio Aceval
President of Paraguay



Mr. William McKinley
President of the United States

PARAGUAY:

A Country of Vast Natural Resources,

DELIGHTFUL CLIMATE,

LAW-ABIDING PEOPLE,

AND

STABLE GOVERNMENT,

Rightly called the

Paradise of South America.

BY

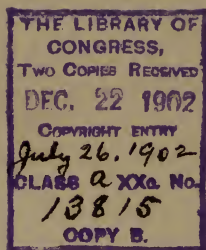
WILLIAM MILL BUTLER.

PHILADELPHIA:

The Paraguay Development Company,

1901.

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By

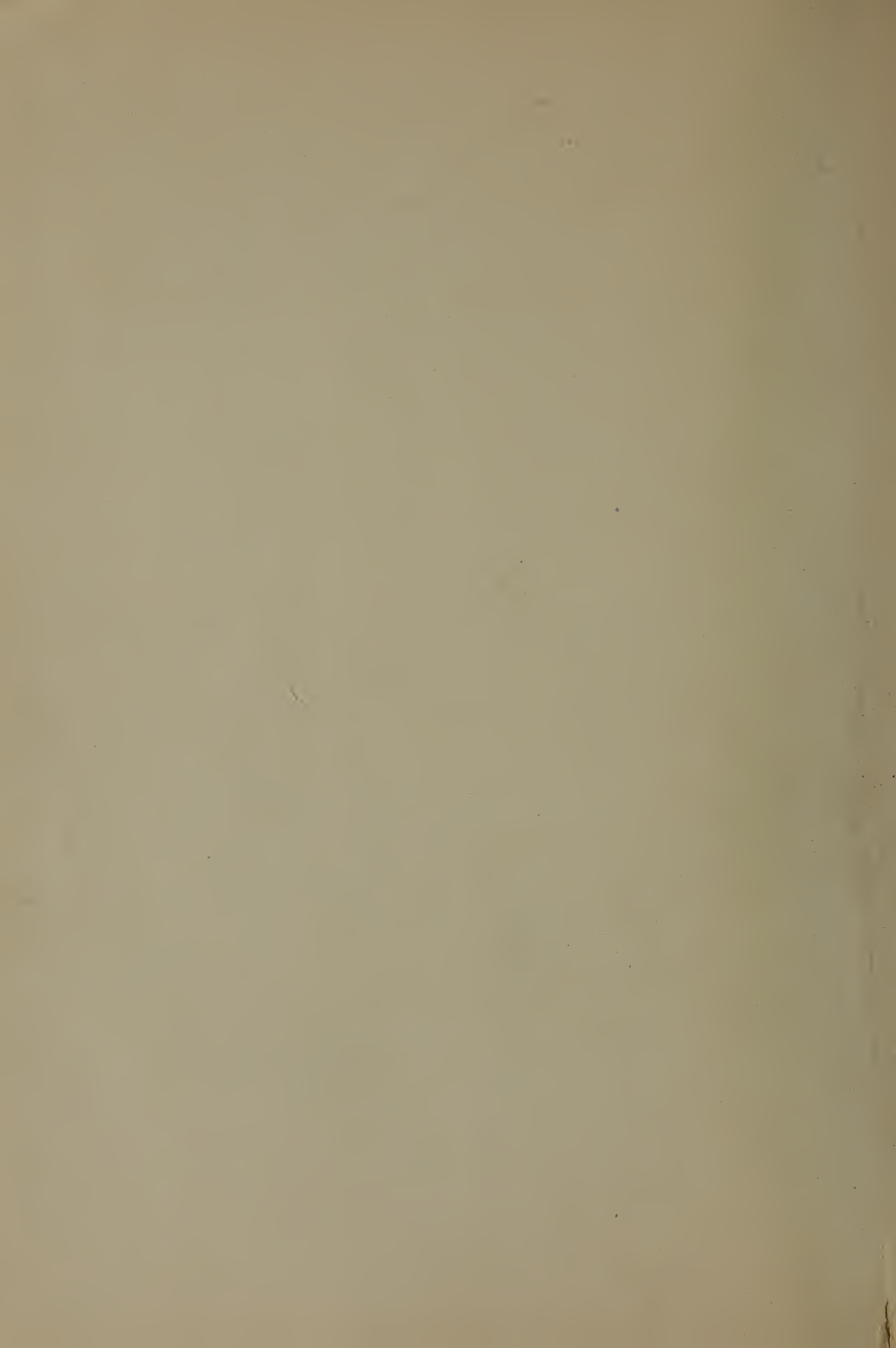
The Paraguay Development Company.

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National Palace, Asuncion





Prefatory Remarks



THIS is the purpose of this little volume—by means of a handful of pictures, selected at random, and a few of the more important topics, arranged in alphabetical order for easy reference—to give our friends in the United States a glimpse of one of the most beautiful and attractive countries in the world, concerning which a former Director of the Bureau of American Republics aptly said in his published writings:

“Situated as she is in the very heart of the continent; embraced and bisected by the grandest system of water transportation in the world; possessing a variety and extent of timber unequalled in proportion to her area by any nation on earth, immense and nutritious pastures, and a soil that is unsurpassed, Paraguay needs only capital and industry to become a rich and powerful nation. Nature has done no more for any land, and nowhere else can so large a remuneration be obtained for so small an outlay.”

F. G. Carpenter, America's leading newspaper correspondent, is similarly enthusiastic, as can be seen from his recent book, describing his travels in South America, in which he says: “Paraguay is the Paradise of South America. Its climate is delightful. Its semi-tropical vegetation is as luxuriant as that of the Garden of Eden.”

The average temperature of the year in Paraguay is 74 degrees Fahrenheit, corresponding closely to that of Florida. Yellow fever, typhus, cholera and other epidemic diseases are unknown. Asuncion, the capital, is a winter health resort for visitors from Argentina, Uruguay and other countries.

There are in Paraguay four distinct varieties of soil—sand, red soil, humus and black soil. The fertility of the soil in general is phenomenal. It grows in luxuriant abundance all the products of temperate and tropical zones. In many kinds of products several crops are raised each year.

Alfalfa, for example, yields six crops per annum. Water is abundant, the average yearly rainfall being 61.8 inches. No better conditions could be desired for agriculture, fruit growing, forestry and cattle raising.

In addition to this, the mineral resources of the country are undoubtedly immense, although but little attention has been paid to them by a pastoral people, lacking capital for exploration and development. Iron abounds everywhere, and marble, copper, kaolin, and gold even, are spoken of in reports of travelers and others.

Without entering here upon any details concerning the history of this favored and inviting land of promise, and referring our readers to the text which follows in regular order, we may say in passing that Paraguay is one of the best-governed and most peaceable countries in the world. Revolutions and political disturbances, such as unfortunately afflict many South American countries, are unknown there. If we except the efforts by which they easily shook off the yoke of Spain, the Paraguayan people had but one war, and that was in defence of their territory and existence as a nation. Contending single-handed against the combined forces of three of their most powerful neighbors, we shall search history in vain for a more heroic or sanguinary struggle against overwhelming odds. The population, which was over one million before the war, was cut down to 221,000 consisting mostly of women, old men and children. Their national existence was saved by the bloody sacrifice, but the natural result was a stagnation from which Paraguay is only recovering. From the proud position of a leader in South American civilization—it had the first railway, telegraph, shipyard and merchant and naval marine in that part of the world—it was reduced to poverty and distress, and had it not been for the wonderful productiveness of its soil and the virility and recuperative strength of the people, it must have succumbed to what seemed a cruel but certain fate. To-day, however, they are nearly a million strong again, and ready to push forward once more in the race for advancement and prosperity. Their form of government is in many respects closely modeled after that of the United States. The President of the Republic is an enlightened and able man who has traveled extensively and is personally familiar with the United States. He has a great admiration for our country and desires to establish closer commercial relations with it. In this desire he is seconded by Congress and by the



Religious Festival, Asuncion, Procession Going to the Cathedral

most influential and substantial citizens and business men of the Republic, without regard to class or political affiliations.

The government of Paraguay is wisely and honestly administered. The foreign trade now amounts to over \$5,000,000 annually and can be doubled in a few years with the introduction of capital and American enterprise. The public debt of the country amounts to \$5,091,751.46 which is less than eight dollars per capita, a remarkably low ratio as compared with other countries. In this statement no account is taken of the war indemnities asked for by Brazil, Argentina and Uruguay, but at least one of these countries long since officially cancelled the obligation as unjustly imposed, and another has virtually agreed to do the same, as diplomatically announced some time ago, while the third is also said to be favorably inclined.

The revenues of Paraguay are principally derived from import and export duties. To quote from the annual message of the President: "The Government has not only money enough to take care of its internal debt, but it has also the necessary funds to increase agriculture and cattle raising on a large scale." In addition to this, immigration, public improvements and other matters pertaining to the welfare of the country are encouraged and provided for.

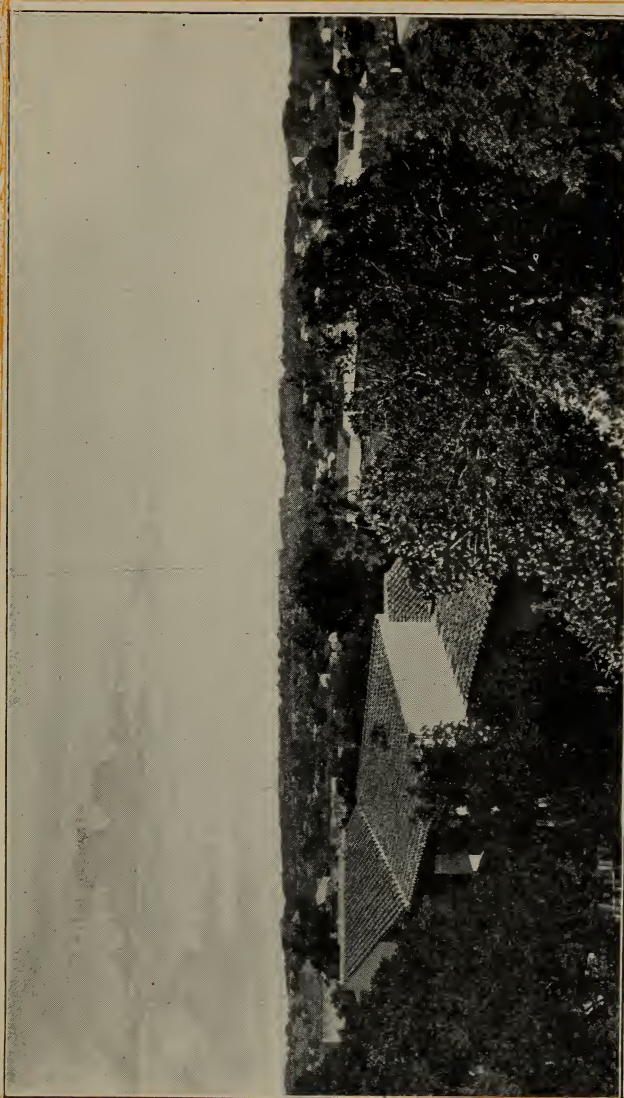
We come now to a point where a brief reference to the Paraguay Development Company and its work may not be deemed inappropriate. The Government of Paraguay, following out its desire to establish more intimate relations with the United States, sent as a delegate to the International Commercial Congress and Export Exposition, held in Philadelphia in 1899, Señor Carlos Rodriguez Santos, a nephew of Gen. Caballero, a soldier of the war of 1865-1870, who served his country with distinction, not only on the field of battle, but subsequently in the office of Chief Executive.

Señor Santos represented Paraguay at the gathering of the world's commercial leaders in Philadelphia with dignity and great ability, and when he left for home, at the adjournment of the Congress, he had succeeded in making arrangements for putting some of his ideas and those of his associates into practical execution. Among these ideas, for the advancement of the mutual interests of Paraguay and this country, was the organization, first of all, of a company, under the laws of the

United States, and with the direct sanction and support of his Government, which should carefully study the needs of our sister republic and obtain the right, upon the most favorable terms, to take up successively those industries down there which would provide opportunities for the safe and remunerative investment of American capital. The result was the incorporation of the Paraguay Development Company, concerning which, and the work it has in hand, full particulars will be found in the body of this volume. We may add that Mr. Santos agreed to act as the Company's personal representative in Paraguay, and that through his efforts there was also enlisted in its behalf the valuable co-operation of Hon. A. A. Rutis, formerly South American representative of the Credit Lyonnaise of France, and now President of an American industrial concern whose capital stock is \$10,000,000. Mr. Rutis was subsequently appointed Consul-General of Paraguay, with jurisdiction in ten States, in recognition of his services in behalf of international commerce.

In concluding these prefatory remarks, we may state that the General Manager of the Paraguay Development Company (formerly chief of one of the departments of the celebrated Philadelphia Commercial Museum) recently sailed for Paraguay, accompanied by two engineers of the highest ability and reputation, for the purpose of making exhaustive investigations and reports upon the projects which the Company has in hand. Among these projects are valuable concessions already granted for electric lighting, traction and power; concessions to be granted for a steamship line, cotton mills, starch factory, slaughtering and cold-storage plant, water works, harbor improvements, and many other useful and desirable enterprises. For all of these the Paraguay Development Company makes the necessary preliminary investigations, plans, surveys, etc., conducts negotiations, and obtains concessions, contracts and rights. It is then in a position to invite outside capital to come in and join in the execution of the various projects, for several of which it already has assured all the financial support that will be necessary.

The Company is especially proud of the fact that in all its undertakings it has had the unqualified approval and support of the Paraguayan Government, as well as the good will of the United States Government, expressed through the State Department. The President of Paraguay, in his annual message, delivered to Congress, on April 1, recommended



ELLERRE PHOTOGRAPH CO. PHOEN.

View in Asuncion

the granting of the subsidy for a steamship line as proposed by this Company, and expressed pleasure upon the granting of previous concessions. Before the departure of the Company's representatives for Paraguay, his best assurances of a warm welcome were also received by cable. In the next edition of our booklet we hope to give the results of our friendly expedition to Paraguay, and much additional information, which will undoubtedly tend to further strengthen the commercial and industrial ties of two friendly nations.





PARAGUAY

The Paradise of South America



Agriculture is the principal source of wealth for Paraguay, although very little cultivation of land by machinery has as yet been done. Labor is very cheap and the soil so fertile that very little effort is necessary to secure the bounties of nature. The chief difficulty is to clear the ground from stumps of trees. The wise policy of the government in encouraging immigration has resulted in the founding of a number of colonies (*q. v.*) which do much to advance the progress of agriculture. (See, also, "Products of Paraguay.")

Air. The air in Paraguay is so pure that fresh meat can be kept for several days in summer without spoiling. (See, also, "Winds.")

Alfalfa. This very desirable food for cattle grows luxuriantly in Paraguay, no less than six crops being realized per annum. The President's message states that during the year 1900 about 2,800 acres were under cultivation.

Area. The total area of Paraguay—including the Chaco (*q. v.*) or Indian territory—is officially given by the government as 317,000 square kilometers, which are equal to 122,664 square miles. Exclusive of the Chaco, the official figures are 238,290 square kilometers, or 92,000 square miles. In its entirety the area of the Republic equals the combined area of the States of New York, Pennsylvania and West Virginia. (See, "Boundaries," and "Population.")

Army. Military service is obligatory for all male citizens between the ages of eighteen and fifty-five, but the standing army consists of only 500 men, 150 horse and 350 foot, and is maintained chiefly to preserve internal order. President Aceval in his message to Congress, April 1, 1901, states that the reorganization of the army, under the law of August 22, 1898, in accordance with the demands of the general progress of the country has the earnest attention of the government. By a decree of December 12, 1900, the first enlistments having been declared closed, the creation of six regiments of what will be known as the National Guard was proceeded with. Officers were appointed and the General Inspector of Militia organized an academy of instruction. The govern-



Market-place, Asuncion, at the Noon-day Siesta.

ment has students at the Military and Naval Colleges of Buenos Aires and Santiago, Chile. The President's message also says: "The military commands, captaincies of the coast, and maritime commissaries duly fulfil their duties and have at their command the indispensable elements for the service with which they are entrusted." (See, also, "Navy.")

Asuncion, the capital of Paraguay, occupies an area of about 16 square miles, and is situated in the midst of a fertile territory, on the eastern bank of the River Paraguay, which has a width here of more than 600 yards. The city is built on the edge of a plateau which has a relative height of about 200 feet. Its streets cross each other at right angles and so slope toward the river that the rains keep them well washed. Asuncion was founded on August 15, 1536, on the feast of the Asumption, whence it derived its name. It was one of the earliest Spanish settlements in South America, and antedates St. Augustine, Florida (the oldest city founded by Europeans in the United States), by thirty years. About 1547 it was made a bishopric.

Asuncion has always been the seat of the government, with the exception of a short time during the only war which the country ever had (see, "War") when Luque was made the provisional capital. Asuncion suffered severely at the hands of the Allies, being bombarded and taken in 1869. Its population before the war was estimated at 40,000. The census of 1876 gave 19,463; the census of 1886, 25,724; that of October, 1900, 51,719, as reported in the President's annual message to Congress. In the last-mentioned figures are included 23,106 males, and 28,613 females. The number of foreigners was 4,541.

With renewed prosperity throughout the country and the development of its immense resources and latent industries, it is estimated by a former United States Vice-Consul, who resided there for sixteen years (Dr. E. M. Flagg, now of Philadelphia), that the population of Asuncion will double within the next ten years. Water works, sewers and other local improvements are therefore imperative, even though the capital is one of the healthiest cities in the world. (See, "Climate.") The President's message alludes with satisfaction to the letting of the contract for electric lighting, which, together with electric traction and power is to be supplied by the Asuncion Electric Lighting and Traction Company, a branch of the Paraguayan Development Company.

The last census above mentioned, also shows that Asuncion has 570 commercial houses with an aggregate capital of about \$5,000,000,* and 253 industrial establishments with a total capital of about \$15,000,000. Among these are tanneries, breweries, distilleries, flour mills,

* Gold; unless otherwise stated, all values given in this volume are on a gold basis; for value in Paraguayan paper currency, multiply by 8.

factories for making soap, matches, bricks, earthenware, palm-leaf hats and many other articles of native consumption. Its port is the most important in the interior of South America, and its harbor will, when the improvements now contemplated have been made, be ample for a city ten times its present size.

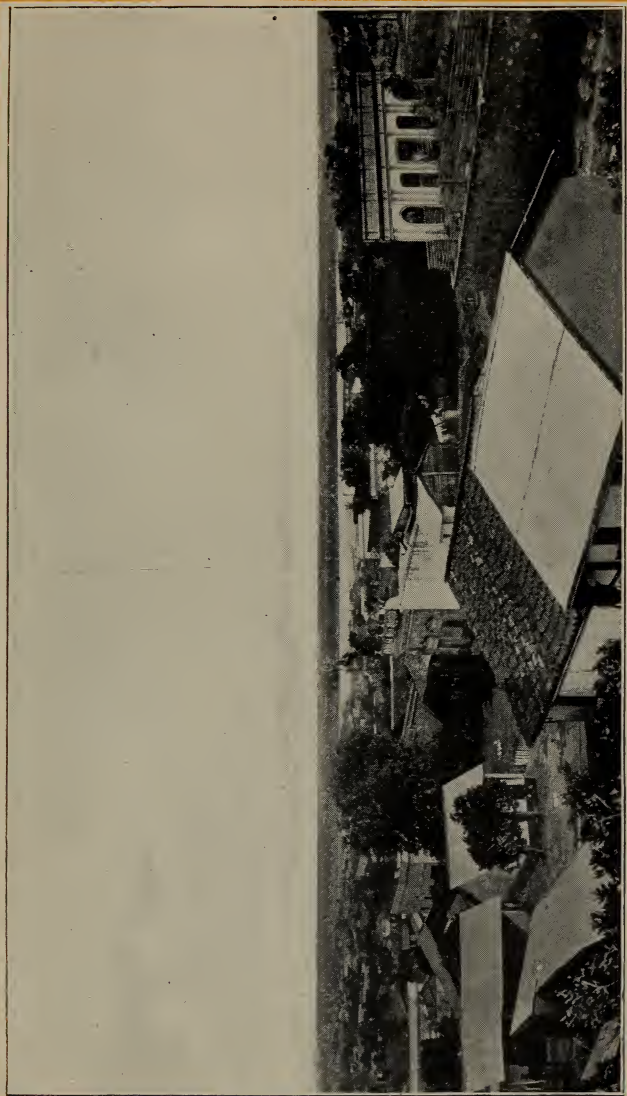
Asuncion has six well-conducted daily papers; a national library and museum; an active commercial organization, the Centro Commercial; and many other institutions and prominent buildings, among which may be mentioned the following: Agricultural College, Banco Agricola, Banco de Los Rios, Banco Mercantil, Banco Territorial, Barracks, Cathedral, Cancha Theater, Central Market, Custom House, Encarnation Church, Government Warehouse (formerly Lopez Theater), Hotels—Hispano, Americano, Franco-Argentino, de France, and La Borde; House of Congress, Lutheran Church, Mausoleum of Lopez, Methodist Church and Schools for boys and girls, National College, National Palace, Normal School for Girls, National Theater, Old Port Market, Paraguay Central Railway Station, Prison, San Roque Church, Tribunales. New Barracks and a Military Hospital are to be erected on Tacumbú Heights.

The capital is esteemed as a winter health resort by the people of Buenos Aires, Montevideo and other points. Frank G. Carpenter, in his recent book of travels in South America says: "Although Asuncion is older than any city in North America, it appears delightfully new and bright."

Bananas grow luxuriantly in Paraguay, and are a staple article of food. (See, "Products.")

Banks. Paraguay has ably conducted and responsible financial institutions. The leading banks are located in Asuncion, and among these the most useful is undoubtedly the Banco Agricola, or Agricultural Bank which is under direct government management and has for its object the advancement of the agricultural interests of the country. It has a capital of about \$500,000 and makes loans on property to the amount of half the assessed value. It also helps the farmer to find a ready market for his crops. For example, in 1897 it bought all the cotton, paying 50 cents per arroba (25.35 pounds) with seeds, and \$1.82 for every arroba without seeds. Through this bank the government also introduces seeds, tools and improvements in agriculture. A loan of \$125,000 was made to the bank in 1899, to be applied to the advancement of agriculture and national industries. The government intends still further to increase the usefulness of this excellent institution.

The Banco Territorial del Paraguay, established in 1887, has a capital of \$250,000, and discounts, negotiates and collects bills, makes



View in Asuncion

investments in real estate, and does a general banking business. It paid a dividend of 12 per cent. in 1897.

The Banco Mercantil del Paraguay, established in 1890, has had a phenomenal success. It paid a dividend of 15 per cent. in 1896, 16 per cent. in 1897 and 18 per cent. in 1898. Its authorized capital is \$625,000, and of this one-half had been subscribed in 1898. In addition to doing a general banking business, this bank also makes collections at home and abroad, advances money on tobacco and other products, and sells the same on consignment. It pays interest on deposits as follows: At 90 days' notice, 4 per cent.; at 120 days' notice, 5 per cent., and for longer periods, 6 per cent.

The Banco de los Rios & Co. was founded by Vicente Nougues and G. de los Rios, January 4, 1895, and has a capital of \$125,000. In addition to a general banking business, it issues bills of exchange and letters of credit on leading cities in all parts of the world. In the United States it has correspondents in Chicago, New Orleans and San Francisco. Interest is paid on deposits as follows: At sight, 4 per cent.; at 30 days' notice, 5 per cent.; at 60 days' notice, 7 per cent.; at 90 days' notice, 9 per cent.; at 6 months' notice, 10 per cent. On gold accounts 4 per cent. interest is paid at 90 days' notice and 6 per cent. at 6 months' notice. This bank owns thirty-six square leagues of yerba maté plantations in Rio Verde, the annual output of which is 2,500,000 pounds of maté.

In 1900 the establishment of the Caja de Credito Comercial was announced. This bank will pay special attention to the promotion of the foreign commerce of Paraguay.

"It seems to me," says F. G. Carpenter, "that there is a chance for some of our idle American funds in banking in Paraguay. The usual rate of interest outside the banks is 15 per cent., and in the banks you cannot borrow money for less than one per cent. per month. The usual discount rate is 12 per cent. As a result the banks pay large dividends."

Birth-Rate. (See, "Vital Statistics.")

Boundaries. Paraguay is situated between 22° and 27° 35' South Latitude, and 54° 35' and 62° West Longitude. The Republic is bounded on the north by Bolivia and Brazil, on the east by Brazil and Argentina, and on the south and west by Argentina. On the eastern and southern boundary runs the River Paraná; to the west and north-west the Rivers Paraguay and Pilcomayo. The celebrated Guayra Falls are on the Paraná, where the northern boundary between Paraguay and Brazil takes the direction of the mountains of Macarayú and Amambay.

Bureau of Information. The Department of Immigration of the Government of Paraguay has a Bureau of Information which issues regularly in English and French a "Monthly Review," and answers all inquiries concerning the resources and advantages of Paraguay.

Butter is well liked in Paraguay, although consular reports say there are no butter factories in the country, with the exception of the dairies located in the German colony of San Bernardino. Butter retails at 35 to 40 cents per pound and the duty on imported butter is 50 per cent. *ad valorem*.

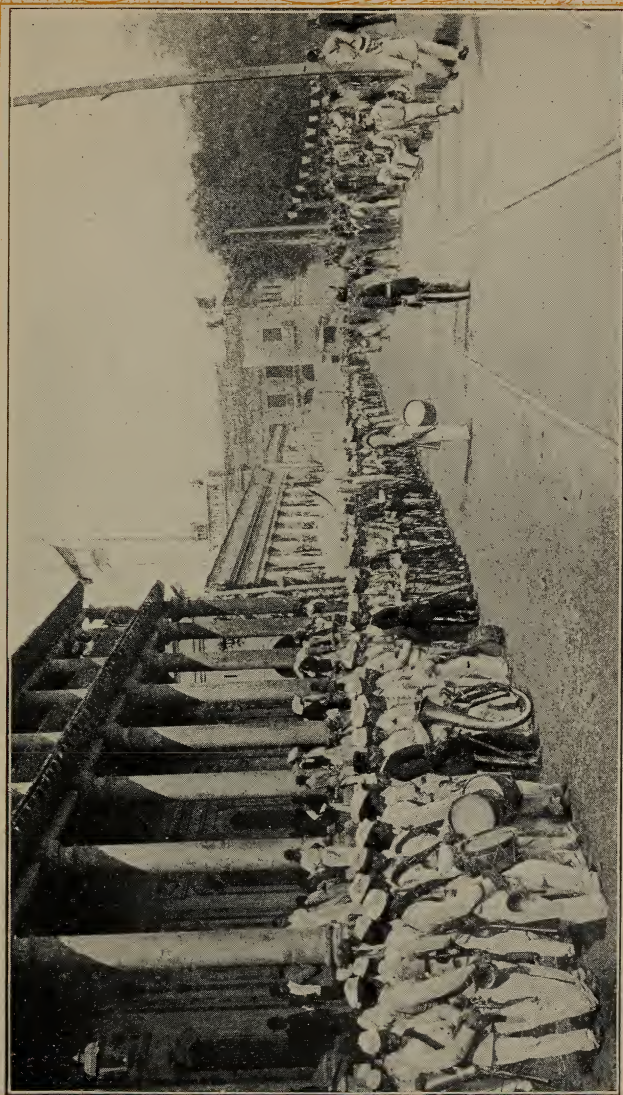
Carapegua. This town was founded in 1725, and has a population estimated at 13,000. It has many cattle, and is a centre for cotton, tobacco, sugar cane and mandioca. Among its industries are tile and brick factories, and starch, coarse cloth, handspun cotton textiles, and lace are also made.

Cassava. (See, "Mandioca.")

Cattle Industry. Stock raising is destined to become the chief industry of Paraguay. Much of the country is naturally fitted for the fattening of cattle, as the pastures are green the year round and water is plentiful, so that the animals need comparatively little care. The season at which they become fat and fit for slaughter is about two months earlier than in Argentina and Uruguay, which is a decided advantage. The Chaco territory is especially well adapted for the industry, and good grazing lands can be purchased there at \$1,000 per square league, or about 17 $\frac{1}{3}$ cents per acre. A square league will support 1,000 cattle, and two herds of that number can be fattened on it each year. The President, in his annual message presented to Congress April 1, 1901, says the profits on cattle raising "may be calculated at from 20 to 35 per cent., according to the pasture and management."

At the close of the war of 1865-1870 (See, "War,") the number of cattle left in Paraguay was estimated at 15,000 head. By 1877, the number had again increased to 200,525. In 1890 there were 861,954, and in 1900, according to the President's recent message, 2,283,039. In addition to this there were, in the last-named year, 214,058 sheep; 107,426 mares; 75,364 horses; 32,334 goats; 23,887 hogs; 4,067 asses, and 3,490 mules, making a grand total of 2,743,665.

It is to be borne in mind in this connection, that up to the present time most of the cattle produced in Paraguay have been needed to supply the home market, and about the only export has been in dried beef, for which there is a growing demand. With additional capital much could be done in extending this trade, but the greatest stimulus of all



SELECTED THREE EGG CO. PHOTO
Military Parade, Buenos Aires Street, Asunción

for the entire cattle industry would be the establishment of slaughter houses, meat packing and refrigerating plants such as have made the beef and mutton of Argentina and Uruguay articles of daily consumption in Europe (and in this connection we may allude to the prediction of a former minister to Argentina—the Hon. William I. Buchanan—that in five years the United States will also look to South America for its meat supplies).

What Argentina and Uruguay have accomplished Paraguay can equal, if not largely exceed, for she has many advantages to put up against their only advantage of being closer to the Atlantic seaboard. Paraguay cattle can be obtained and fattened cheaper; they can be brought to market two months earlier, as already stated, and the Paraguayan government has passed a special law (October 4, 1900) granting exemptions and privileges to packing companies which alone will prove an advantage of several dollars per head over the heavily-taxed products of the other mentioned countries. It is the purpose of the Paraguay Development Company to establish a large packing and refrigerating plant in Paraguay, and negotiations with the government and capitalists are now in progress, with promise of good results.

Beans. The bean crop is a large one in Paraguay, the acreage under cultivation during 1900 being larger than that of tobacco. The exact figures given in the President's message were 2,234,649 lines, which is equal to 44,693 acres.

Business Integrity. (See, "Commerce.")

Castor Beans can be grown in enormous quantities in Paraguay, and they yield new crops practically all the year round. The number of plants set out during 1900 is given at 260,830 in the President's annual message.

Chaco, The. The Chaco or western section of Paraguay, lying between the rivers Paraguay and Pilcomayo, is an immense flat area covered with extensive forests and fertile plains. It contains a few higher elevations which are continuations of the watershed separating the waters of the Paraná and the Amazon. Edmund Shaw, former U. S. Consul at Asuncion, says: "The general aspect of the Chaco is very pleasing to the eye. Forests of large and very superior trees, mostly evergreens, interchanged with rich pasture lands unexcelled for grazing purposes, meet the eye at every turn. The different kinds of woods which grow in these forests are mostly hard and very heavy. The soil is everywhere exceedingly rich, being black humus, loam and marl. All kinds of grain, sugar cane, tobacco and fruits can be grown there to perfection."

The most notable settlement in the Chaco is Villa Hayes, renamed in honor of the President of the United States for his just decision in the arbitration matter which was referred to him by Paraguay and Argentina, and which involved the possession of a large portion of the Chaco. President Aceval in his last message states that the Chaco is being rapidly populated by stock raisers and important industrial establishments, and that on this account the Government has proceeded to strengthen and improve the military posts existing at Bahía Negra and Fuerte Olimpo. These garrisons, together with that of Villa Hayes, serve as a police force for the whole region of the Chaco between the two rivers, and as far north as the boundaries of Brazil and Bolivia.

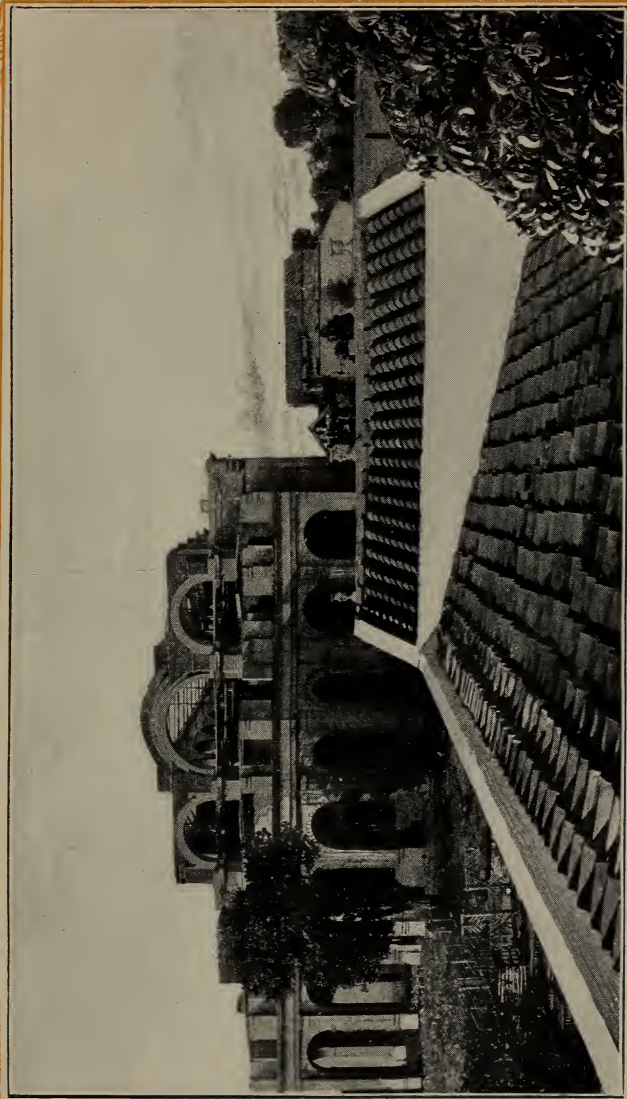
There is an English missionary station one hundred miles back in the Chaco, whose headquarters are across the Paraguay River from Villa Concepción.

Climate. The climate of Paraguay, although semi-tropical, is very equable, thanks to the frequent rains, the great forests which attract the clouds, and to the fresh breezes which prevail during the warmest weather. Another advantage is that the climate is dry. United States Minister Finch, writing from Montevideo, January 19, 1899, calls attention to the fact, which is an evidence of the purity of the air, that fresh meat can be kept for several days during summer without becoming spoiled.

The average yearly temperature is 23 degrees Celsius (equal to 74 degrees Fahrenheit), but this is subject to variation by reason of topographical conditions, so that in some localities it is from 3 to 5 degrees lower. The winter is so mild that many families from the River Plate go up to Asuncion every year. There are some exceptionally cold days in which the thermometer falls as low as 2 degrees Celsius below zero (equal to 35.6 degrees Fahrenheit). The highest temperature in the Summer is 40 degrees Celsius (equal to 104 degrees Fahrenheit). December, January and February are the warmest months of the year. During the other nine months the climate may be characterized as temperate.

Foreigners who have visited Paraguay are unanimous in their admiration of the climate. Physicians declare that for salubrity, equality of temperature and health-restoring properties for consumptive patients it is unrivaled. It may be noted that there are on an average 45 cold, 96 hot, and 224 moderately warm days during the year. In its entirety the climate of Paraguay may be said to resemble that of Florida and Lower California.

Cocoanuts. Paraguayan cocoanuts are a peculiar product. The palm trees upon which they grow are to be found everywhere, generally



View in Asuncion, Church in Course of Construction

in groves or in clumps rather than in forests. They produce two or three crops per year. The nuts grow in great bunches of little balls no larger round than a walnut, but of the same shape as the ordinary cocoanuts of commerce. These little cocoanuts are valuable as they contain a great deal of oil, which is obtained by grinding and pressing the kernels. The oil is largely used in making soap and can be employed for many other purposes.

Coffee. The soil and climate of Paraguay are well adapted to the cultivation of coffee. Brazilian coffee is grown in the State of Matto Grosso, which borders directly on Paraguay. The President's annual message, delivered to Congress April 1, 1901, states that during the previous year 191,673 coffee plants were set out in Paraguay. The total number of plants under cultivation in 1898 was reported at 343,407 and it was stated that all the product of the coffee plantations was being readily disposed of in the Asuncion market.

Cold Storage. (See, "Cattle Industry.")

Colonies. The liberal immigration laws of Paraguay, and the wise policy of the Government in fostering the establishment of agricultural settlements should attract a large foreign population when once generally known. Not only is the passage of immigrants paid from the ports of Buenos Aires and Montevideo to destination, but other advantages are extended including exemption from taxes for a period of ten years. (See, "Immigration.") Already ten flourishing colonies are in existence in various parts of the Republic, with a combined population of over 3000.

The earliest attempt at colonization in Paraguay appears to have been made shortly after the close of the war, by Messrs. Robinson, Fleming & Co., of London, who negotiated the English loans for the Paraguayan Government. Their attempt to establish an English colony of so-called Lincolnshire farmers did not meet with success. Subsequent efforts on the part of the Government gave better results however, in the shape of what is to-day one of the finest colonies, San Bernardino. This was in 1881, and Nueva Germania followed in 1887; the National Colony in 1891; New Australia, William Tell Colony and Colony of the 25th of November in 1893; Cosme in 1894, besides others as will be found in the following brief sketches.

Villa Hayes, the chief town in the Paraguayan Chaco, located across the river in sight of Asuncion, and in direct communication with the Capital by steamboats, was originally founded in 1854 by Lopez with French settlers, being at first known as Nouvelle Bourdeaux and later as Villa Occidental. After the arbitration decision in favor of

Paraguay, rendered by President Hayes, of the United States, the name of the colony was changed in his honor. The official report in 1898 places the population at 287 persons, the major part being French, Swiss, Belgians and Italians. Among the products raised by the colonists are sugar cane, alfalfa, coffee, bananas and other fruits. Among the industries were caña distilleries, sugar-making establishments, brick factories and broom factories. 6,000 head of cattle, 400 horses, 300 sheep and 100 swine were also reported.

San Bernardino Colony is situated on the shore of Lake Ipacarái. It was founded in 1881 by the Government. Its location is excellent, being in communication with the railway station of Aregua by steamboat, so that the people send their products to the Asuncion market every day. The colony is composed of Germans and Swiss, and covers an area of twelve square miles. The colonists are mainly engaged in agricultural pursuits, and also manufacture cheese and butter. There are beer breweries, distilleries, and other industrial establishments. Coffee, sugar cane, maize, mandioca, beans and all kinds of vegetables are grown. There are 4,000 cattle and 480 horses, according to a report made in 1898.

Neuva Germania Colony was founded in 1887 by Dr. Förster. It is situated in the department of San Pedro, near two affluents of the River Gegue, which empties into the Paraguay. The area of the colony is twelve square miles, and the population consisted, according to the report above mentioned, of 184 persons, mostly Germans and Swiss. Agriculture is the main pursuit, and among the products of the soil under cultivation are maize, mandioca, tobacco, beans, sugar cane, coffee, and various fruits.

The National Colony, founded in 1891, by the Government is situated in the department of Caazapá, on the railroad between Asuncion and Villa Encarnacion. Its area is twelve square miles, and the population in 1898 was reported to be 109 families, composed of 408 persons of the following nationalities: 97 French; 74 Germans; 56 Italians; 63 Paraguayans; 23 Swiss; 19 Argentines; 20 Spaniards; 20 English; 16 North Americans; 4 Austrians; 9 Belgians and 3 Brazilians. The agricultural products include, in addition to those enumerated above in the case of other colonies, also rice and cotton.

New Australia Colony was founded in 1893 by the Co-operative Colonies Company of New Australia, to which the Government gave 64 square leagues of territory, on condition that 1200 families settled there within six years. Many colonists presented themselves, each subscribing \$300. In this way \$150,000 was raised to start the colony, which was organized upon a communistic basis. Dissensions subsequently arose and 85 persons left, and purchased another tract. In 1894 still

another band of 25 departed for Buenos Aires. Those who remained reorganized the colony, dropping most of the objectionable features. It was decided to liquidate the colony, dividing all assets among its members; also, that the Government would give each family or adult 120 acres of land, in order that each one might work independently of the other, and a large additional territory to be owned by the entire population for division with the new people when they join the colony; the colony to be protected by a board of officers, named by the people for internal affairs while all other matters shall come under the colonization laws of the country. New Australia Colony is situated in the Department of Ajos, twenty miles distant from Général Caballero station, and is divided into five villages, which had a combined population of 262 in 1898, together with 537 cattle, 158 horses, 196 swine, 3 sugar factories, a ramie cleaning establishment and other industries. The people cultivate in addition to the articles mentioned in other colonies, potatoes and ramie.

The Colony of the 25th of November is also situated in the department of Ajos, four miles east of New Australia. It was founded in 1893, and its population of 912 persons is composed exclusively of Paraguayans. The usual Paraguayan agricultural products are cultivated, and the colonists, according to the report made in 1898, possessed 2,300 cattle, 250 sheep, 350 horses, 90 swine and 60 goats.

The William Tell Colony, founded in 1893 by Dr. M. S. Bertoni, is situated in the department of Tacurupucú, at the junction of the Rivers Monday and Paraná. The population is exclusively composed of Swiss people, who are engaged entirely in agricultural pursuits, and make a specialty of the cultivation of coffee, for which the soil is admirably adapted.

Cosme Colony is an offshoot of the New Australia Colony, being started by members of that colony who did not agree with the parent organization. Under the leadership of William Lane, they organized a new colony in 1894. It is situated in the department of Caazapá, between the River Pirapó and the stream Capiibary, three leagues from the Paraguay Central Railway. The colony in 1898 was reported to have a school, warehouses, a shoe factory, tannery, 2,400 orange trees, 2,000 Yerba Maté plants, 2,400 coffee plants, 400 grape vines, 830 banana plants, and 300 other fruit trees. The usual agricultural products were under cultivation. The colonists have built a bridge over the River Pirapó. The population on the above-mentioned date was composed of 50 men, 18 women and 25 children, all Australians or English. A letter from one of the members of this colony, published in the *London Chronicle* says: "The Paraguayan land laws are most liberal, putting to shame the legislation of other countries. The Government gave Cosme

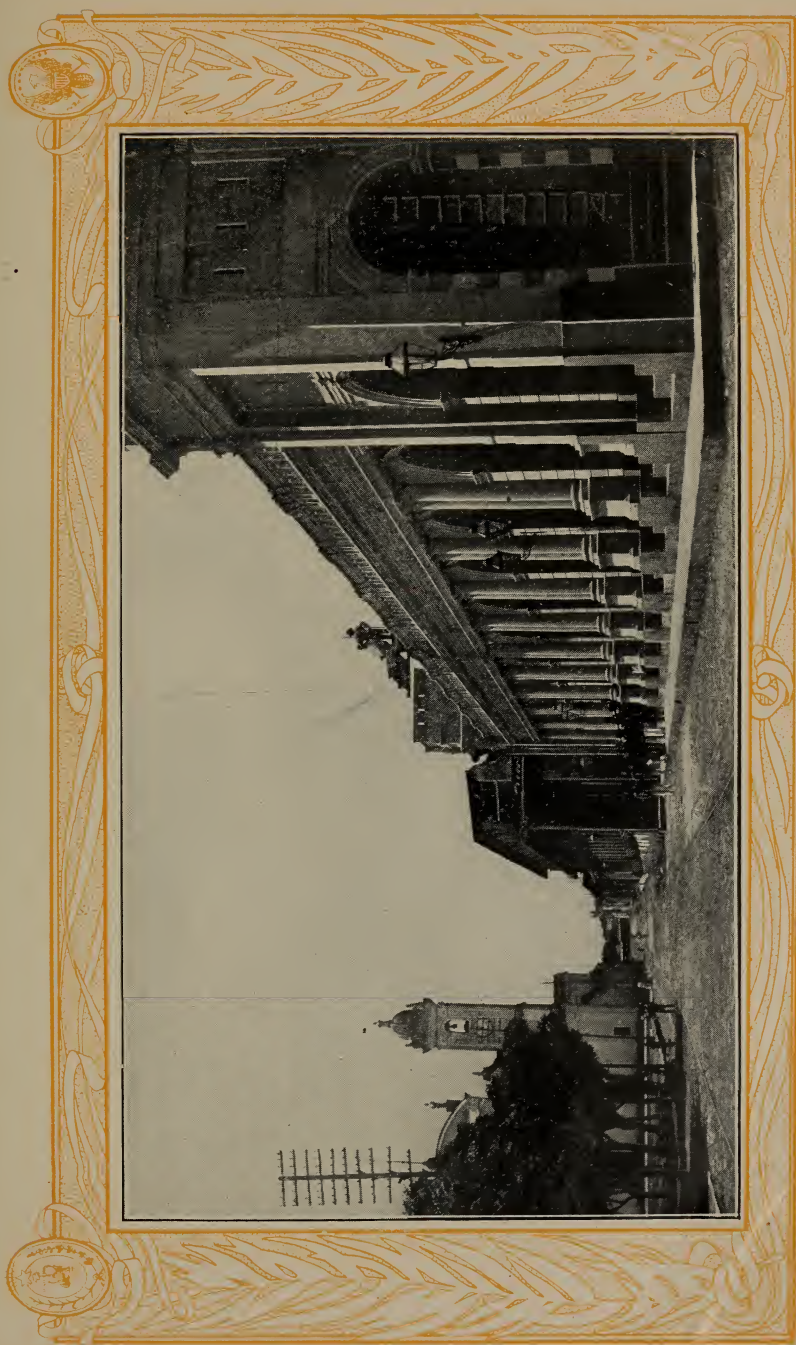
28,000 acres of land; exempted the colony from all direct taxation for ten years; granted complete self-government, appointing colony-nominated magistrates; established a postal service at its own expense; paid river and railroad fares of Cosme immigrants, and now through the State Bank, has supplied Cosme, on favorable terms of payment, with valuable machinery for the development of its resources."

The Eliza Colony is situated three leagues south of Asuncion on the River Paraguay. It was founded by two banks, and subsequently acquired by M. E. Johannsen. It has an area of about 3,470 acres, and a population of about 40 families, composed of 227 persons, as reported in the *Revista Mensual* for July, 1899. These people are equipped with all the necessary tools for agricultural pursuits. Among the products are given 1,980 cartloads charcoal. The United States Consul at Asuncion informs us that Eliza Colony is a very well to do and flourishing settlement, and one that is very easy of access. He states that the leading business men of the colony are anxious to obtain vessels provided with cold storage apparatus in which to transport the finest kind of beef, such as beefsteak, to Buenos Aires. In his opinion it would also prove a good place for the establishment of a canning factory.

A statement by Señor Don José S. Decoud in the *Revista Mensual* for May, 1899, states that new concessions for proposed colonies have been granted as follows: To Dr. Stefano Paterno, certain territory in the department of Villa del Rosario; to Messrs. Luiz and Juan Orione, certain lands in the department of San Pedro; to Messrs. Reverchon and Closs, certain lands in Altó Paraná; to Messrs. R. W. Dent and Prieto, certain lands in Santa Clara in the department of Caazapá; to Mr. Juan Amado, for certain lands in the department of Villa Franca; to Messrs. Cramer, Ortlieb & Co., certain lands near Villa Concepción.

The President, in his last annual message states that the initiative has been taken for providing practical instruction in all the colonies of the Republic, through the establishment of agricultural schools, as an efficient means of co-operation in encouraging production, and investigations into the products most suited to the different regions.

Commerce. Owing to lack of direct steamship communication, Paraguay is placed in the peculiar position of having its exports largely credited to neighboring countries, in the published trade statistics. Up to the present time practically all its foreign trade is done through Buenos Aires and Montevideo, and the destination of its products thus disposed of is, therefore, uncertain. For example, there is no mention of imports from Paraguay in the commercial statistics of the United States, and yet it is estimated that in the matter of bones, horse hair, dry and salted hides, dyewoods, skins, etc., imported by our country



Police Department, Asunción

from Argentina and Uruguay, out of a total importation of \$14,000,000 per year, at least a portion should be credited to Paraguay.

To remedy this anomalous position is one of the aims and objects of the Paraguay Development Company, which has applied to the Paraguayan Government for a steamship subsidy, and has the written assurance of one of the largest shipbuilding concerns in the United States that the necessary vessels as well as the capital to establish the line will be forthcoming as soon as the subsidy is granted. There can be no doubt that with direct steamship communication, trade between the United States and Paraguay would become a recognized quantity and increase in a manner that would be most gratifying to both countries. And not only this, but we have reason to believe, after due investigation, that the proposed line would afford an outlet also for the commerce of southern Bolivia, which would be brought down the rivers to Asuncion, instead of seeking vainly for an advantageous route to the Pacific.

The commerce of Paraguay is handled by 2,298 commercial houses, which have a combined capital of \$8,335,568, according to the President's last annual message. Of these there are in the city of Asuncion 1,728 commercial houses, with a capital of \$3,334,191.

Señor Carlos R. Santos, in his address before the International Commercial Congress, pointed with pride to the fact that, although Paraguayan commerce does not have large amounts of capital at its disposition, it has always been guided in its transactions by the strictest of observance of honorable conduct, a matter which has been duly appreciated in its exterior relations. An illustration of the above may be found in a letter received by the Paraguay Development Company from one of the leading foreign merchants in Asuncion, who assures us that the trade with Paraguay of foreign firms which he represents amounted in the year 1899 to nearly \$1,000,000, and that out of this sum the entire losses did not amount to \$5,000. We give herewith a table showing the imports, exports and total commerce of Paraguay for a number of years past. The figures for all the years, except the first three and 1899 are from official sources:

YEAR	IMPORTS	EXPORTS	TOTAL
1876	639,055	333,284	972,339
1881	1,253,880	1,874,502	3,128,382
1888	3,289,000	2,588,000	5,877,000
1895	1,308,662	1,958,250	3,266,912
1896	2,830,873	1,888,061	4,718,934
1897	2,371,765	2,181,809	4,553,574
1898	2,822,438	2,207,461	5,029,899
1899	2,684,396	2,526,278	5,210,674
1900	2,622,177	2,672,861	5,295,038

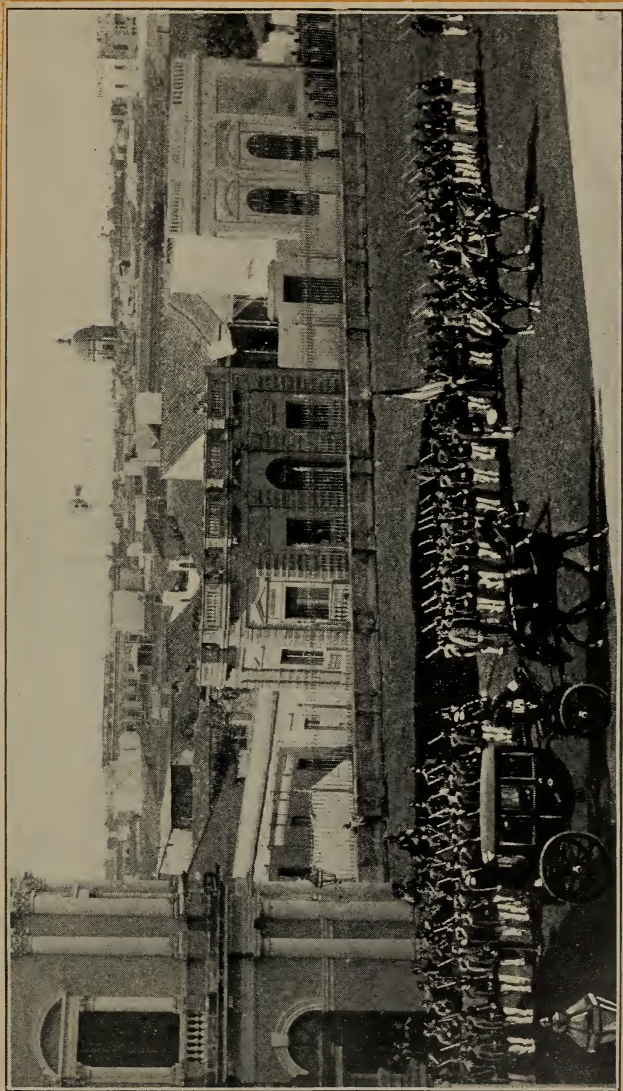
As an illustration of the nature of the leading articles imported into Paraguay we may give the following tables for the year 1898 :

Eatables, etc.	\$ 398,192 59
Drinks	237,738 38
Hardware, tinware, etc.	163,823 66
Lamps, ironware, etc.	2,433 01
Chinaware, glass, etc.	15,043 05
Dressed skins and hides	11,961 40
Harness	1,348 10
Footwear, leather, etc.	7,528 65
Watches and clocks	2,763 72
Musical instruments	4,423 45
Furniture, tapestry, etc.	10,315 24
Guns, pistols, ammunition	22,997 04
Stationery	13,957 95
Perfumery and toilet articles	21,479 95
Mercery	67,019 08
Textiles, cotton, etc.	709,012 74
Apparel	24,989 25
Hats, etc.	44,401 50
Drugs and Medicines—	
General	13,911 31
Special	4,633 65
Surgical instruments, etc.	16,355 09
Other unenumerated articles	394,340 47
Total	\$2,218,748 28
Entered free of duty by law	500,339 70
Entered free by special concessions	103,351 00
Total	\$2,822,438 98

Most of the manufactured articles enumerated above are received from England and Germany. The exports of Paraguay also most largely go to those two countries, although oranges, bananas, pineapples, tomatoes, melons and other fruits and vegetables are exported to Argentina and Uruguay, where they have the advantage of coming into the market about two months earlier than similar local products.

The leading articles of export from Paraguay are hides, yerba maté, tobacco, hardwoods and dyewoods. All of these, together with fibres, manganese, palm oil, castor oil and a great variety of medicinal plants should find a ready market in the United States.

Communication. Paraguay possesses the Paraná and Paraguay Rivers, two first-class fluvial ways of communication, which places its people in relation not only with Brazil, Argentine and Uruguay, but also with the Atlantic Ocean and the rest of the world. These two rivers are enlarged by several tributaries, and in their turn contribute, together with the River Uruguay, to form the River Plate, one of the greatest estuaries in the world.



Reception to a Foreign Minister, Asundon

Constitutional Guarantees. The Constitution of Paraguay guarantees to all inhabitants of the Republic, native and foreign, the following rights:

To navigate the rivers, to follow peacefully their professions and trades, to assemble peacefully, to petition the authorities, to enter, remain or quit the Paraguayan territory free and without passport, to publish their ideas in the press without censorship, to use and dispose of their property and associate themselves together for useful and lawful ends, to profess freely their belief, to teach and to learn.

Property is held inviolate and no inhabitant of the Republic can be deprived of it without due course of law. The State may exercise the right of eminent domain but must previously indemnify the owner.

Only Congress can impose taxes, and without special authority the exercise of this power is prohibited to any other authority or person.

Every author and inventor is the exclusive owner of his own works and inventions or discoveries, during such time as may be granted him by law.

No personal service can be demanded of any person unless by virtue of law or sentence duly found.

The confiscation of goods is forever prohibited: So is the penalty of death for political offenses.

No armed body may make demands or requisitions upon any person nor demand aid of any nature without compensation.

The right to be judged by a jury in criminal cases shall be assured to all and shall forever remain inviolate.

No person shall be obliged to testify against himself nor be liable to arrest without warrant issued by competent authority, nor detained more than 24 hours without informing him of the nature of his offense.

All accused persons are presumed to be innocent until declared guilty, or suspected of guilt, by a competent judge.

Domiciliary rights are inviolable as are also private correspondence and papers, and the law only shall determine in what cases and under what circumstances their discovery may be had.

All kinds of torture and corporal beating are abolished. Prisons should be wholesome and clean, and not for the mortification of prisoners detained therein.

Excessive bail shall not be required nor excessive fines imposed.

Private acts of men, which in no manner offend the public order or public morals, nor injure a third person are judged by God alone, and are exempt from the authority of magistrates. No inhabitant of the Republic shall be obliged to do that which is not commanded by law, nor shall be deprived of that which it does not prohibit.

The liberty of the press is inviolable, and no law shall be passed infringing in any manner upon this right.

Actions involving the violations of law by the press are only triable by jury, and in causes and demands in which are involved the publication of censure of public servants, proof of the alleged facts shall be admitted.

In the Republic of Paraguay there are no slaves. Slaves which in any manner may be introduced, shall become free by the mere act of entering upon Paraguayan territory.

The Paraguayan Nation does not admit prerogatives of blood nor birth. There are no privileged persons, nor titles of nobility. All its inhabitants are equal before the law, and are qualified for any position without other condition than fitness. Equality is the basis of taxes, imposts and public charges.

The electoral right of the citizen is inviolable, and the President and his Ministers are prohibited from interfering directly or indirectly in popular elections.

Whatever authority, whether of the city or country, which of its own motion or obeying orders of superiors, exercises coercion directly or indirectly against one or more citizens, commits an assault upon the right of suffrage, and is responsible personally before the law.

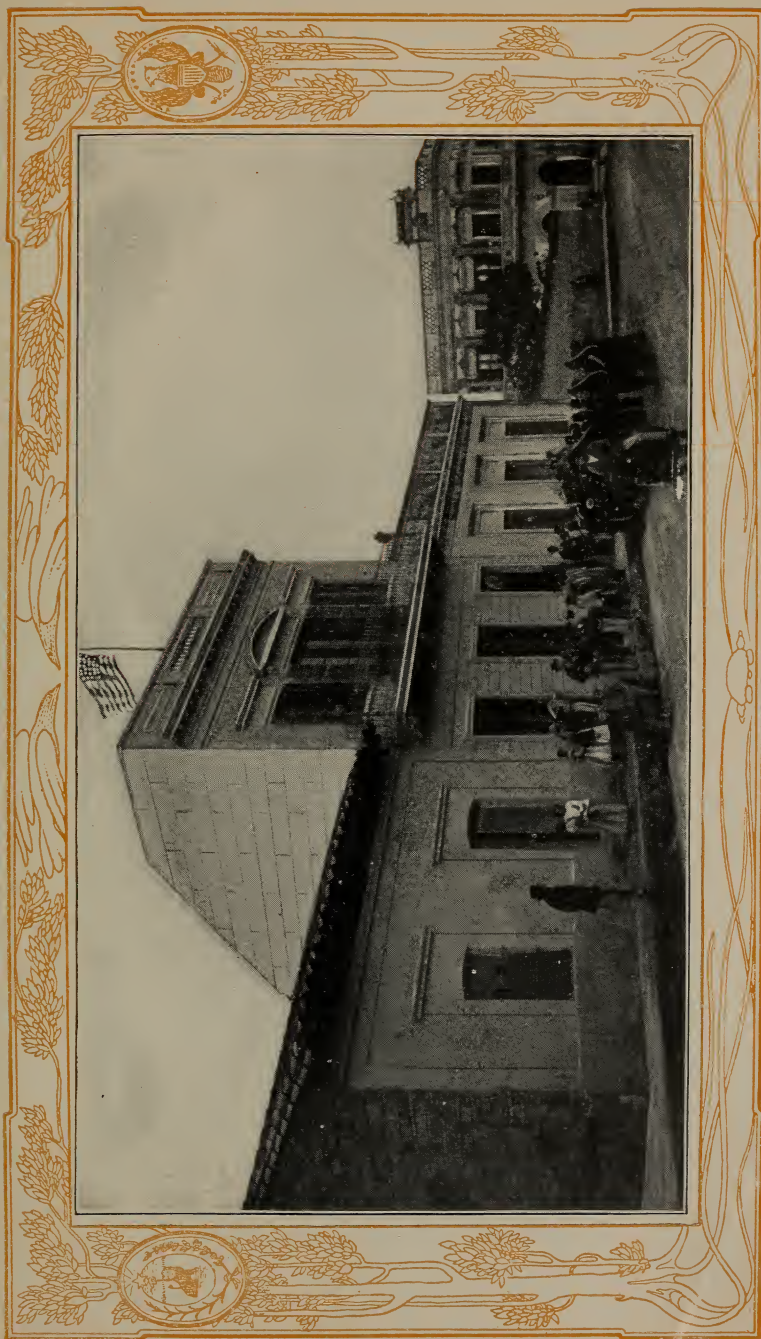
All citizens of Paraguay are obliged to arm themselves in defense of their country and constitution. Naturalized citizens are equally obliged to perform this service after three years from date of their naturalization.

No law can have a retroactive effect.

Foreigners enjoy in the whole territory of the nation all the civil rights of citizens. They can exercise their industries, commerce and professions, possess property, sell and dispose of the same, navigate the rivers, profess freely their belief, dispose of their property by last will or testament, and marry in conformity to the law. They shall not be obliged to become citizens nor forced to pay extraordinary contributions.

The declarations, rights and guaranties enumerated in this fundamental law shall not be understood as denying others not enumerated, but which are born of the principle of sovereignty of the people and of representative republican form of government.

Copper is among the minerals which are to be found in Paraguay, although very little prospecting has been done so far. Señor Carlos R. Santos, during his attendance at the International Commercial Congress, in Philadelphia, as delegate from the Government of Paraguay, brought with him some samples, which were submitted to Dr. Barringer, the well-



United States Consulate, Asuncion

known expert, who pronounced the ore very rich, and declared that if it was found in sufficient quantities no better investment could be desired.

Cosme Colony. (See, "Colonies.")

Cotton is indigenous to the soil of Paraguay, and can be raised of the longest staple, without difficulty. There is no reason why, with proper encouragement, the cotton industry should not be a large and most valuable one. There are several kinds of cotton which are grown in Paraguay. The best known are the white cotton which has a long and strong fibre, and the yellowish cotton which is more glossy in appearance and of the same quality as the former. Cotton seed, introduced from the United States has produced good plants. Señor Santos, in his speech before the International Commercial Congress, stated that white and yellowish cotton yield on an average seven pounds per plant. The soil yields three or four crops of cotton per annum, which is a great advantage in itself. The President's annual message gives the number of cotton plants cultivated during 1900 as 328,053. While the cost of transportation from Asuncion militates against the export of raw cotton, with the establishment of cotton mills as proposed by the Paraguay Development Company, there would be an incentive for growing cotton and supplying the home market with cotton textiles, which are now almost exclusively imported from England. In 1898 such goods were imported to the value of \$186,325.02, and as the entire population wears cotton garments exclusively the demand is constantly growing.

Crime. "Crime is comparatively rare in Paraguay," says the Encyclopædia Britannica, and many other high authorities and travelers who have been in Paraguay bear the same testimony. The generally peaceful character of the people and their hospitality and generosity towards strangers is also remarked, and their courage and bravery, as exemplified by the great war of 1865-1870, shows that a peaceful people need not necessarily be destitute of valor.

Custom Houses. While Asuncion is the great port of entry of Paraguay, custom houses have been established also at Villa Concepción, Villa del Pilar, Humaitá, Villa Encarnación and San José-mi.

Day, Length of. During the longest day in Paraguay the sun shines 13 hours and 34 minutes. The shortest day lasts 11 hours and 26 minutes.

Death Rate. An indication of the salubrity of the Paraguayan climate may be found in the low annual death rate, which is twenty-three per thousand.

Debt. (See, "Public Debt.")

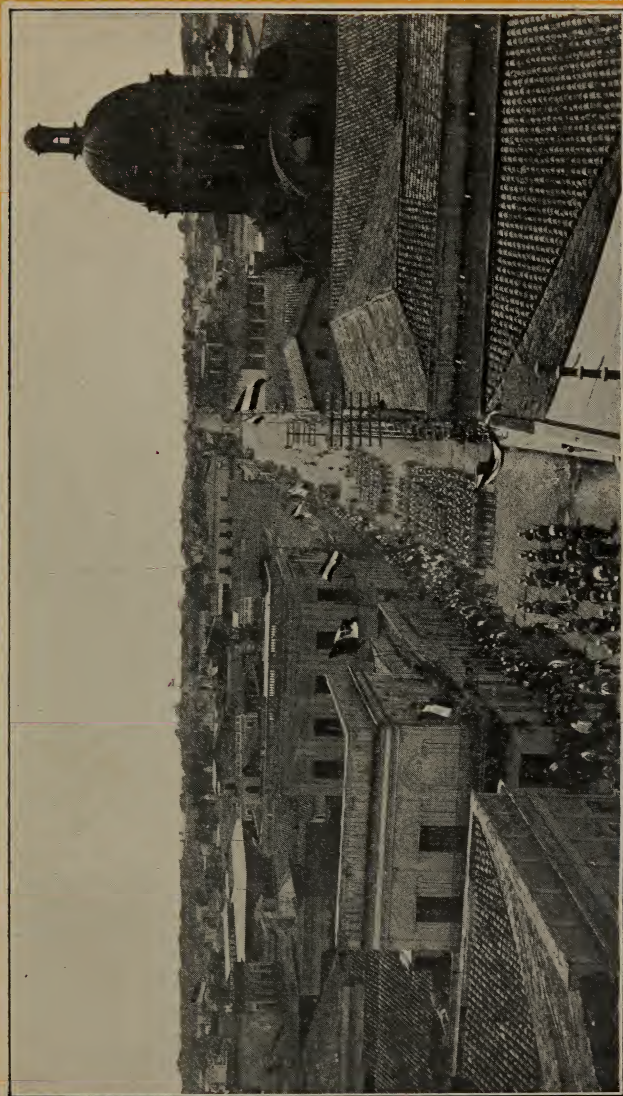
Diseases, Absence of. The absence of the principal zymotic diseases—yellow fever, typhus and typhoid, cholera and dysentery, which are so frequently met with in other South American countries—is one of the greatest recommendations for the climate of Paraguay. Vaccination is made compulsory by law, and smallpox is almost entirely unknown. One or two cases of bubonic plague among Portuguese sailors arriving in the harbor of Asuncion in 1900, gave rise to entirely unwarranted rumors. The disease gained no foothold being most energetically and successfully coped with by the National Board of Health.

Distances. At the request of the Paraguay Development Company, Commander C. C. Todd, Hydrographer of the United States Navy, gives the following statement of distances: "From Philadelphia to Asuncion, via Buenos Aires (direct route) 6,745 nautical miles; from Philadelphia to Buenos Aires (direct route) 5,918 nautical miles; from Philadelphia to Buenos Aires, steamer route, via Pernambuco, Bahia, Rio de Janeiro and Montevideo, 6,065 nautical miles."

Dyestuffs. Besides Quebracho wood of excellent quality there are many other dyewoods and plants, from which dyes can be extracted, in the Paraguayan forests. It is stated on scientific authority that there are at least fifteen plants there which are known to furnish dyes. Indigo and other coloring agents could be supplied in large quantities. Among the rich dyes are the iriburetuia, or "vulture's leg," which gives a blue metallic tint, and the acugay root, a bright scarlet. Former Consul Hill names red, yellow, violet and blue as among the dyewoods which are found in large numbers. Carpenter calls attention to the color of the Quebracho Colorado, which is as red as the dark moss rose.

Education. (See, "Public Instruction.")

Electric Lighting, Traction and Power. On August 30, 1900, the Government of Paraguay granted the Paraguay Development Company a concession to supply electric lighting, traction and power in the city of Asuncion and suburbs for a period of twenty-five years. In accordance with the terms of the concession, a contract was executed on September 5, 1900. The lighting and traction plants are to be installed eighteen months and two years, respectively, from January 15, 1901. The engineers of the Paraguay Development Company, now on their way to the capital, will determine the most economical and desirable manner of generating the electricity and installing the respective plants. At present Asuncion, like other Paraguayan cities, is still lighted by petroleum, and the present street car service consists of horse cars in the city and steam tram cars to the suburbs. The passengers on the top of these tram cars do not enjoy very much the smoke and cinders which come out of the locomotive's smoke stack.



Military Parade on Palmas Street, Asuncion

Elevation. (See, "Topography.")

Eliza Colony. (See, "Colonies.")

Engineering, Government. Paraguay has an efficient national department of engineering. Among the important works which it has in hand at present is the survey of certain towns and colonies, and the making of maps of the same; the survey of the lands of the Paraguay Central Railroad from Asuncion to Villa Rica; plans for works intended to benefit the public health, etc. For the latter, the services of Señor Paquet, a well-known civil engineer were especially secured.

Fibres. The fibres of Paraguay would prove an interesting study in themselves. Eight useful plants of this nature are enumerated. When the fibres of Paraguay are better known, and proper efforts are made to bring them to market, a large industry will be opened up.

Flour Mills. The idea of establishing the milling industry in Paraguay upon a larger scale, under favorable conditions, has been taken up among other projects by the Paraguay Development Company, and its representatives, who are on the way to Paraguay, will study the entire subject personally. It is understood that there are several flour mills already established, but if the wheat can be grown or imported under favorable conditions, and the demand for wheat flour is such as to warrant the increase of milling facilities, the matter will receive due attention.

Foreigners. There were 4,541 foreigners in Asuncion, according to the census taken in October, 1900, and at the same time the entire foreign population of Paraguay amounted to 18,183 persons. Most of the foreign population is centered in the various colonies which have been established through the liberal provisions for immigrants made by the Paraguayan Government. The nationalities most largely represented are the Italians, Portuguese, Argentines, Spaniards, Germans, English, Austrians and French. They are all, as a rule, law-abiding, industrious and desirable settlers, whose united efforts will do much toward developing the agricultural and other resources of the land of their adoption.

Frost. In the five years from 1877 to 1881 only fifty frosts were observed in Paraguay, and of these seventeen fell in August. Mr. Henry Mangels, German Consul at Asuncion, also states that on an average there are ten frosts per year, and ice sometimes forms in the country, although this is rare. In June, 1888, for example, the thermometer registered 36.9 degrees Fahrenheit at Asuncion.

Fruits. Fruit trees of many kinds flourish luxuriantly in Paraguay, the soil, climate and rainfall being admirably adapted for their

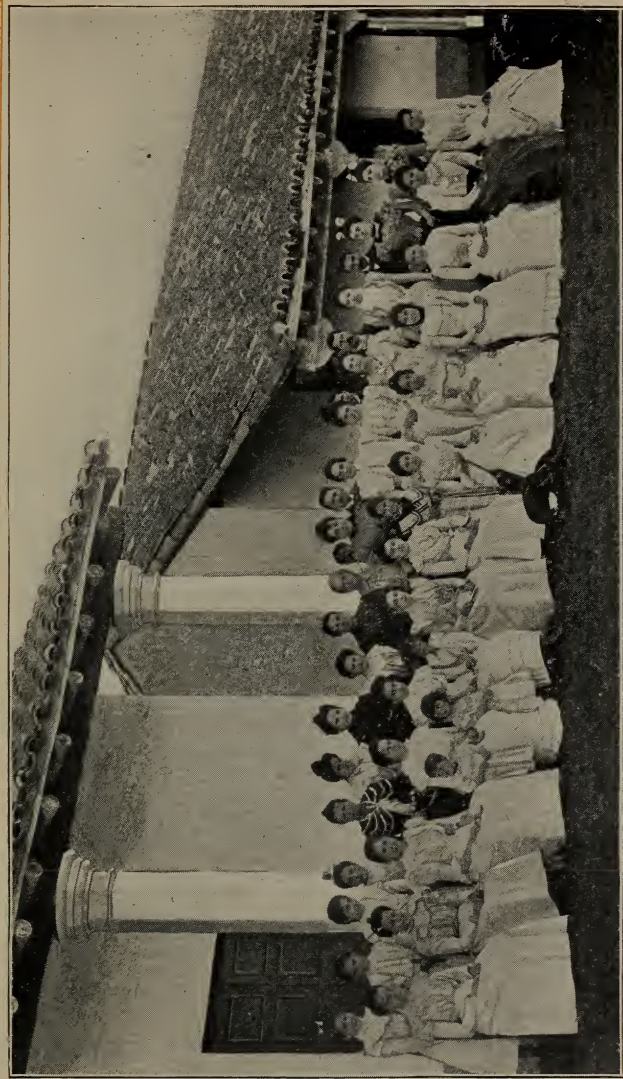
propagation. The cocoa palm often forms regular groves, and the orange tree (reaching a height of fifty feet) is so common, and bears so prolifically, that oranges, like bananas, have a mere nominal value. The quince, plum, pear, peach, cactus fig, pomegranate, and other well-known fruits all grow in the red soil, and there are also excellent native fruits known only by their Guaraní, or Indian names. Water-melons and canteloupes grow everywhere. The grape is also indigenous to Paraguay, and was largely cultivated in the time of the Jesuits. It is possible to grow three crops per annum.

Geographical Position. (See, "Boundaries.")

Gold. (See, "Minerals.")

Government. Paraguay is a constitutional democratic-representative republic. By its constitution, proclaimed on the 25th of November, 1870, Paraguay has a form of government closely resembling that of the United States. There are three high powers of State—the executive, the legislative and the judicial. The executive power is vested in the President, who is assisted by a Cabinet of five members. The President and Vice-President are elected for a term of four years, and are afterwards ineligible for a second term until an interval of four years has elapsed. The legislative power is vested in Congress, which consists of a Senate and House of Deputies. Members of the Senate are elected for six years, one for every 12,000 inhabitants, and members of the House for four years, one for each 6,000 inhabitants, all directly by the people. The judicial power is vested in a Supreme Court, with three judges and courts of lower jurisdiction. For the purpose of internal administration, the country is divided into departments and districts which are under chiefs, appointed by the President, and have civil justices and boards of commissioners. By this arrangement the national administration is able to interest itself closely in all matters of local concern. The Government of Paraguay is characterized by its stability, its honesty of administration, its care for the interests of the people, and its friendly relations with foreign powers and countries, whose enterprise and capital it freely invites to its shores upon the most liberal terms, and with guarantees of fair and honest treatment, equal to that accorded its most favored citizens. While other South American countries are frequently disturbed by internal revolutions, no danger whatever need be apprehended from this source in Paraguay. For this, among many other good reasons, it must be considered one of the best countries in the world in which to invest capital and execute enterprises. (See, "Constitutional Guarantees.")

Grapes. (See, "Fruits.")



A Group of Paraguayan Ladies

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Guaranís. The Spaniards upon their first arrival in Paraguay found the country in the possession of the Guaraní Indian tribe, an intelligent and industrious people readily amenable to European civilization, and in fact possessed of a certain degree of civilization themselves. They long successfully resisted the Spanish armies. Their admirable qualities are to-day apparent in the strong, healthy and progressive race which inhabits Paraguay, and which is largely the result of a mingling of Spanish, Portuguese and Indian blood.

Guayra Falls. The Paraná River, which forms a large portion of the eastern boundary of Paraguay, has four hundred miles of rocky rapids and falls. The most important is the Salto Guayra, one-half of which belongs to Paraguay and the other half to Brazil. Captain Sandalio Sosa, of the Argentine army, who with Dr. De Bourgade, of Paris, France, explored the upper Paraná, returning in 1888, spoke thus of the celebrated cataract: "The Guayra Fall is not a single perpendicular fall of water; it is a tumultuous collection of rapids and great and little falls, all plunging together into a single channel, through which are forced 15,000 to 20,000 cubic meters of water. The height of the precipice is 100 meters."

Harbor Works. The preliminary report of the engineers upon the proposed improvement of the port of Asuncion, as shown by a copy placed in the hands of the Paraguay Development Company by the Government of Paraguay, provides for extensive dredging, excavating and masonry or concrete work, the object of which is to bring the entire Paraguay back into its old channel near the wharves, part of the river having sought a new channel, and this deviation is to be corrected. The work, it is estimated, can be completed in six or seven years at an annual expenditure of \$250,000, or about \$1,500,000 in all. Preliminary negotiations have already been in progress between the Company and a large American contracting firm, which has undertaken other similar works in Cuba.

Health. Paraguay being an unusually healthy country, there would seem to be but little to do for a national board of health, and this would be the case were it not for the fact that dangers from without appear from time to time, and must be guarded against. The ports of the country, and especially Asuncion, are points where ceaseless vigilance is necessary. That the National Board of Health is fully able to cope with all diseases which may threaten the health of the capital and country at large is apparent from the high praise bestowed upon it in the President's last annual message. The Board has at its service a bacteriological laboratory in Asuncion, and the latest and

most improved apparatus for disinfection in suspicious cases of diseases. The Bacteriological Institute is under the direction of Dr. Miguel Elmassian, from the celebrated Pasteur Institute of Paris. There is also a National Bureau of Vaccination, which prepared 40,000 points of vaccine virus, one-half of which was utilized in the capital, and the other half in the country, and 80,000 adults and 20,000 children were vaccinated with excellent results.

The President, in his message, also states that a treaty has been effected through the National Board of Health and similar Boards of Argentina and Uruguay, for the purpose of avoiding all sanitary difficulties between Paraguay and the neighboring countries, and the inconvenience occasioned to navigation and commerce during threatened epidemics from abroad, and quarantine regulations are made necessary.

Hides. The export of hides is already a considerable item in the foreign commerce of Paraguay, and with the development of the cattle industry this valuable trade will largely increase.

History. Paraguay was discovered in 1530, by Sebastian Cabot. The first Spanish Colony was established under the direction of Pedro de Mendoza. His lieutenant, Juan de Ayolas, founded what is now the capital of Paraguay, Asuncion, on August 15, 1536, after defeating the Guaraní Indians, several thousand of whom, under their chief Lambare, submitted to the intrepid invaders and helped them to build the first fort. Captain Martinez de Irala remained in charge and organized the settlement, establishing a municipal council, a church and erecting additional fortifications.

The country, called Paraguay at first, comprised the entire basin of the River Plate, and up to 1620 was subject to the viceroyalty of Peru. In that year two separate governments, Paraguay and Buenos Aires, were established by royal decree, and these were administered, like their predecessor by intendants under the Peruvian jurisdiction.

In 1776 the two provinces were re-united under the separate viceroyalty of Buenos Aires, and the capital established in the city of that name. In 1809, after the defeat of Spain by France, a provisional government was formed at Buenos Aires, which still acknowledged the sovereignty of the Mother Country, but in 1811 the Paraguayans took steps to secure their own independence, which they achieved by defeating the army under General Belgrano, who had been sent from Buenos Aires to coerce them into submission. For a time the country was governed by a *junta* composed of Generals Pedro Juan Caballero, Fulgencio Yegros and Dr. José Gaspar Rodriguez de Francia. In 1813 this was changed and Yegros and Francia continued in authority as



Meeting, in Front of the Brazilian Legation, Asuncion

Consuls. In 1814 Francia was made Dictator for three years, and afterwards for life. During his absolute rule, which lasted until his death, in 1840, foreigners were denied entrance or exit from the country. Many reforms were introduced by Francia, however, schools were established, and a code of laws devised. After a brief government by another *junta*, presided over by Dr. C. L. Ortiz and General Juan José Medina, the consular system was re-established in 1841, and Don Carlos Antonio Lopez and Don Mariano Roque Alonso were named Consuls. In 1844 Lopez was named Dictator for ten years; at the expiration of that term he was re-elected for three years; and again in 1857 for seven years. During his government a more liberal policy toward foreigners was pursued; Paraguay's independence was formally acknowledged, and, by a convention with Brazil, the waters of the Paraguay River were declared to be opened to the merchant marine of all friendly nations.

Upon his death in 1862, Lopez was succeeded by his son, Francisco Solano, commonly known as Marshal Lopez, who conducted the government much after the manner of Francia. In 1864 he became involved in a dispute with Brazil, and this led to one of the most bloody wars in history. On the one side were Brazil, Argentina and Uruguay; on the other, Paraguay, heroically determined to shed its last drop of blood for what it considered its rights, and in defence of its existence as a nation. The war lasted from 1865 until 1870, being terminated by the death of López, who fell in battle, sword in hand and with his face to the foe.

A provisional treaty of peace, drawn at Asuncion June 20, 1870, declared the rivers Paraguay and Paraná reopened, and a new constitution was promulgated on November 25th, which provided, among other things, for the summary punishment of such persons as should in future attempt to assume the dictatorship.

Twenty-one notable citizens united under the auspices of the allied powers and elected a Triumvirate, composed of Cirilo Antonio Riverola, Carlos Loizaga and José Diaz Bedoya, who remained in provisional charge of the administration of the country's affairs. They concluded a treaty of peace with the allies, and called a constitutional assembly of sixty representatives, which met on August 15, 1870, for the purpose of drawing up a new constitution. This was adopted and promulgated on the 24th day of November, 1870.

Señor Riverola was elected the first provisional President. He was succeeded by Salvador Jovellanos, after a very brief administration, on December 18, 1871. In November, 1874, Juan B. Gille was made President; he died April 12, 1877, and Vice-President Higinio Uriarte completed the unexpired term. On November 25, 1878, Cándido Bareiro was elected, but he also died in 1880, and the Vice-President,

Señor Saguier, refusing the advancement which was open to him, General B. Caballero, one of the most valiant defenders of the country during the war was made provisional President, and formally elected for the full term on November 25, 1882. His administration proved very popular, and he was succeeded on November 25, 1886, by General Patricio Escobar, during whose administration important public works were executed. His successor, Juan G. Gonzalez, who had been Minister Resident of the Republic in Europe, was elected November 25, 1890. Four years later the election resulted in favor of General Eguisquiza, who was in turn succeeded by Dr. Emilio Aceval, on November 25, 1898.

For over thirty years Paraguay has now been recuperating, and under constitutional Republican government, in fact as well as name. The progress made has been remarkable. Large tracts of government lands have been thrown open for development; colonization has been carried on to a considerable extent; education has been promoted among the people; various industries established, and agriculture increased and encouraged. Thus, "for the first time in its history," says Almont Barnes, L. L. B., in a report made to the U. S. Department of Agriculture, "Paraguay appears in reality to have entered upon, and to have made commendable progress in, a course beneficial to its entire civilized population, and which makes its development and intercourse harmonious with the advance of the neighboring nations."

Hospitality. Frank G. Carpenter, in his recent book on South America, voicing the sentiments of many other travelers, says that the Paraguayans are a hospitable people. One can call at any house, be it ever so humble, and he will be made perfectly at home.

Humaitá, situated 198 miles below Asuncion, is the site of the great earth works and fortifications, by means of which Lopez stopped the advance of the allied armies for more than a year. (See "War.")

Ice. The United States Consul at Asuncion informs us that ice is largely used in Asuncion, and that three large ice factories are in operation there, having been established within the past few years.

Igatimí. (See, "Villa Igatimí.")

Immigration, although as yet small, has made a very good beginning since 1881, under the auspices of liberal laws and facilities accorded by the Government of Paraguay to all foreigners who settle in the country. Among the advantages offered to immigrants are free transportation from the ports of Buenos Aires or Montevideo; entry, free of duty, of individual baggage, furniture, tools, seeds, and one gun per immigrant; lodging and board for five days at the expense of the Government at the

Immigration Hotel; free passage from Asuncion to place of destination, if on railway or river; a grant of sixteen squares of land (equal to about thirty acres) to each immigrant at the nominal price of eight cents per acre. (If the immigrant is a single man, he receives but half this quantity of land.)

Each new settler is also furnished, upon favorable terms, with some agricultural implements, a milch cow, oxen and seeds.

The number of immigrants in 1886 was reported at about 100; in 1887, the number was 563; in 1888, 1,064; in 1889, 1,495; in 1890, 1,419. (See, also, "Colonies.")

Indians. The aboriginal inhabitants of Paraguay chiefly belonged to three races, namely, the Guaranís, the Payaguas and the Agaces. The Guaranís especially form a superior race, which has mingled easily with the white people and adapted itself to modern civilization. In the Chaco, or the western portion of Paraguay, there are several tribes in an uncivilized condition, the most notable being the Guanas, the Ubayaes, the Tobas, the Guaycurías, the Avipones and the Lenguas. Missionary work is being done among some of these tribes, although in the far interior the hostility of the tribes found there makes it dangerous for the white man to venture there.

Industries. There were, in 1890, thirty factories in Paraguay, making bricks, matches, tiles, furniture, leather, liquor, flour, soap, macaroni, beer, artificial ice and lumber. The number has increased since then, and the President's message, delivered to Congress, April 1, 1901, states that there are 1,094 industrial houses in the country, representing a capital of \$16,931,000. In these figures, agricultural and stock raising industries are not included.

Instituto Paraguayo. (See, "Public Instruction.")

Ipacarai is a town situated about 25 miles by rail from Asuncion. It was founded in 1887, and has a population of about 2500. It commands a good trade with the mountain towns.

Iron. (See, "Minerals.")

Ita, a town southeast of Asuncion, about thirty miles distant, is known for its earthenware.

Itagua is known for its beautiful Ñanduty, or Paraguayan lace.

Jaguaron, situated two and a half leagues from Paraguairí, was founded in 1536, and is the seat of the manufacture of orange flower essence, according to the "Encyclopædia Britannica."

Justice. The Judiciary of Paraguay consists of a Supreme Court of three members, two Courts of Appeal, respectively for civil, criminal and commercial cases. There are four judges for civil and two for criminal cases. Dr. E. M. Flagg, formerly United States Vice-Consul, and for sixteen years a resident of Asuncion, says in a recently published interview in Philadelphia: "The Judiciary is incorruptible, and it is one of the glories of South America, frequently referred to by the sister Republics, that the Courts of Paraguay have always maintained their full dignity and independence."

The President of Paraguay, in his last annual message, alludes with satisfaction to the fact that the administration of justice is performed with zeal and assiduity, worthy of great praise. During the year 1900 there has been entered in the Supreme Court and the Courts of First Instance for the Capital, 1514 definite judgments, 2013 interlocutory orders, 19 decrees, 585 demonstrative resolutions, and 33,180 provisional dispositions. There had also been issued 51 final decrees and 5,341 official communications. In the Orphans' Court, 752 opinions had been rendered, and 220 judicial proceedings were reported by the counsellor for the poor and absent.

Labor. As Paraguay is on a paper currency basis, and one dollar of gold is equal to eight dollars of said currency, it can readily be seen that there is a large difference in the wages paid there and in the United States. Ordinary laborers receive from 12 to 20 cents and board per day. Skilled labor receives from 25 to 50 cents. The Gauchos, or native cowboys, receive about \$3.00 per month; capatazes or overseers, \$8.00 to \$12.00 per month, and a native chief overseer is considered highly paid at \$50 00 per month.

Lace. One of the chief industries of the Paraguayan women is lace making. They spin as delicately as spiders and every house is full of beautiful handiwork made by its women, such as lace handkerchiefs, fichus and embroideries. The lace is called ñanduti, which means work of spiders, or spider-web. It is soft and lustrous and almost indestructible. The patterns are of native origin, and some of them are exceedingly beautiful, so that Paraguayan laces attract the greatest attention wherever seen. Here is another industry which might be greatly developed. Up to the present time there are no lace factories in Paraguay, although in the town of Itagua (about 30 miles from Asuncion) lace making is the exclusive occupation of the female population. Children are taught in the schools how to make ñanduti. Although the making of the lace is a long and tedious process, requiring great patience, labor is so cheap that an article upon which a month or so has been spent can be bought for as low as five dollars.



Steamer "Olympo," in the Harbor of Asuncion

Lakes. Although the lakes of Paraguay are not very large, there are among them many beautiful bodies of water. This is especially true of Lake Ipacarai about which the natives are fond of telling many curious legends, and upon the shores of which the colony of San Bernardino is located. It is not far from Asuncion and accessible from the railway station of Aregua and Patiño-cuè. Lake Ipoa is the largest body of water so far known, its area containing 100 square miles.

Land. All lands in Paraguay are sold by the square league, containing 20,000 acres, or about 1,000 acres less than the square league of Argentina. Land sells from one hundred dollars to as high as seven hundred dollars per league. At the first-named figures, the cost would be only $\frac{1}{2}$ cent per acre, but of course only the poorest kind of land could be obtained at that price. Good grazing lands readily bring in the neighborhood of the last-named figures. It is estimated that a league of pasture should feed 1,500 grown cattle. The public lands of Paraguay were valued at \$94,186,800 in 1872, at the time the foreign loan was being negotiated in London.

Language. The official language of Paraguay is Spanish and is spoken throughout the Republic, although in the country districts Guaraní is also employed; in fact, every native Paraguayan is familiar with this ancient Indian tongue, and foreigners also soon get familiar with it.

Lemons grow in great abundance in Paraguay and two crops per annum are obtained. (See, also, "Fruits.")

Literature Concerning Paraguay. Many interesting volumes have been written about Paraguay by explorers and travelers during the last three hundred years. Among the more recent books may be mentioned "Mansfield's Paraguay," London, 1856; Burton's "Letters from the Battlefields of Paraguay," London, 1870; Washburn's "History of Paraguay" (written by the United States Minister who was in Asuncion during the war), Boston, 1871; Mulhall's "Handbook of the River Plate Republics," 1875; and Masterman's "Seven Eventful Years in Paraguay."

Luque. Luque is about nine miles distant from Asuncion, and has at present a population of about 3,000. It was made provisional capital of Paraguay, in 1868, during the war with Brazil, Argentina and Uruguay. (See, "War.")

Maize. Indian corn or maize grows abundantly in Paraguay, and frequently yields 150 fold. It is, after mandioca, the chief food of the people. Two crops are harvested per annum. According to the

President's last annual message, there were under cultivation in the year 1900, 127,434 acres.

Mandioca, or cassava, is a product of the soil peculiar to tropical or semi-tropical regions. It is something like the sweet potato, except that it is not as sweet, but is more starchy. It is grown and universally consumed in Paraguay, being usually cooked with meat, corn, sweet potatoes and other vegetables. This constitutes the national dish. Mandioca is very palatable also roasted or fried, the same as potatoes. Tapioca, and a very pure starch is obtained from it, and out of the starch a very fine bread is made in Paraguay, known as "Chipa." Mandioca is best planted in November, and by February is ripe and ready for market. A good running crop is obtained for five months, and, in fact, it can be obtained almost the year round. For five cents enough mandioca can be bought to furnish the substantial part of a meal for a family of five or six. According to the President's last annual message, there were under cultivation in Paraguay in the year 1900, 101,889 acres of mandioca.

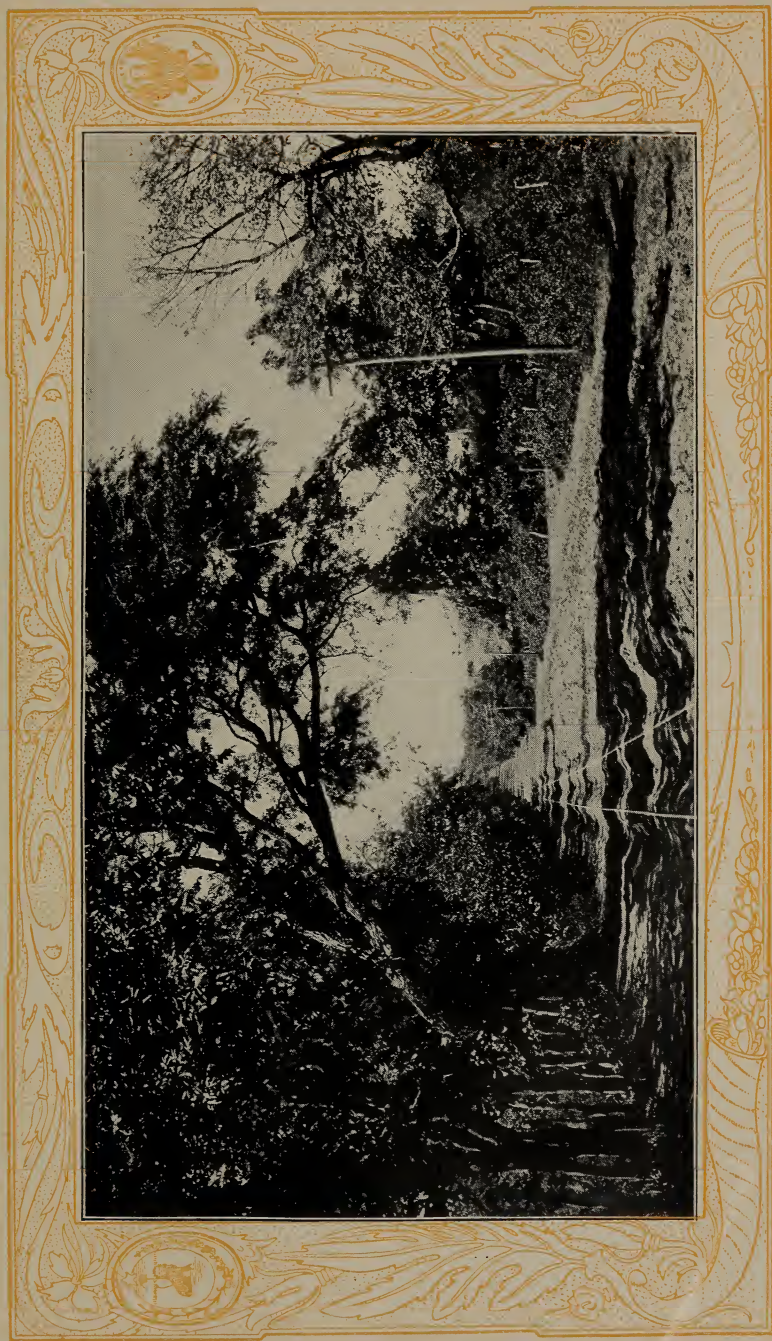
Although starch is extracted in a primitive way from mandioca in Paraguay, the exports reported in 1876 amounted to 277,900 pounds. In 1879, 594,000 pounds of tapioca were mentioned among the exports. Inasmuch as the United States imports every year about 12,000,000 pounds of this material, and the demand for the finest kind of starch, such as is made from mandioca, is practically unlimited, it can readily be seen that a very large market is ready for any products of this kind which can be imported into the United States with good advantage. The Paraguay Development Company has among its projects the establishment of a large modern cassava starch factory in Paraguay, and with the representatives which it is sending to that country to investigate the entire matter is one of the leading chemical engineers in the United States, whose specialty is the erection and equipment of starch and sugar factories.

Manganese. (See, "Minerals.")

Melons. Many delicious melons are grown in Paraguay; and they generally yield two crops per annum. (See, also, "Fruits.")

Military Service. (See, "Army and Navy.")

Minerals. The "Statesman's Year Book" says: "Paraguay contains valuable minerals which are as yet unworked. Iron abounds in the South and marble in the North. Pyrites, copper and kaolin are also found." Dr. E. de Bourgade La Dardye, a French traveler, gives about the same information, saying: "Paraguay, the northern part of which is covered with limestone, while the South belongs to the sandstone for-



Suburban Horse-car Line, Asuncion

Copyright 1907 by the Asuncion Horse-car Line Co., Asuncion

mation, forms one huge mass of iron, stone and manganese. Iron abounds everywhere. Mines were opened and worked in the time of Lopez. Pyrites are found in abundance. I have myself found considerable veins of copper. Kaolin reveals itself in many districts, and I feel certain that the sandstone will prove to be bedded with coal." The "Anuario Estadístico" of Paraguay for 1888, an official publication, says that "Iron, copper, manganese, coal, marble and building stone of the best quality are found in Paraguay." J. N. Ruffin, U. S. Consul at Asuncion, in a report made August 1, 1899, also speaks very highly of the mineral resources of Paraguay. He adds that silicates of aluminum, among which is porcelain earth, are found in many Departments at Luque, Altos, etc. The kaolin is found near the surface, and is of extraordinary purity. Silicates of magnesium, among which may be mentioned talc, are found near San Miguel of the Misiones and Paso de Santa Maria on the Tebicuary river. Graphite or plumbago is of frequent occurrence in crystalline form. The district of Caapucu contains enormous quantities of Elba iron and red iron ore, and near San Miguel of the Misiones is found magnetic iron. Both of these ores were used by Lopez during the war in making war implements. Hydrated peroxide of iron and brown iron ochre occurs in all parts of the country. Porphyry occurs in the whole zone of the plutonic formation, in the districts of Caapucu, Quindy, and Quiquo. Basalt is principally found near Villa Encarnación.

Missions. The first Christian missions in Paraguay were established by the Franciscans, between 1542 and 1560. Following these came the Jesuits, who were expelled in 1767. In recent times, Protestant missions have also been established, as the laws of Paraguay permit the free exercise of all forms of worship, although the State religion is Roman Catholic. There are in Asuncion Lutheran and Methodist churches, and also two excellent English schools under the direction of the latter denomination. An English missionary station has been established in the Chaco, with headquarters across the Paraguay river from Concepción. This mission has been doing a great deal of good work among the Indians, and its operations extend into the Chaco a distance of a hundred miles or more.

Money. Paper money is the chief circulating medium in Paraguay. Gold is at a premium of about 800 per cent. at present, so that one dollar of United States money is worth eight dollars (pesos) in Paraguay. This is the ratio observed throughout this volume. The principal metallic money of foreign countries also passes current in Paraguay. The amount of paper currency in circulation at the end of the year 1899 was \$9,885,000 (equal to \$1,235,625, United States money).

The President's last annual message states that at the end of the year 1900, there was an increase in the currency of \$1,406,325.45 (equal to \$175,790). Last year there was also received from the American Bank Note Company, of New York, \$15,000,000 in printed notes, authorized by law, and to be gradually exchanged for the old paper currency in circulation. Nickel money has been coined to the value of \$200,000, in conformity with the law of June 15, 1899. This quantity is insufficient to meet the public demand, and more will be coined.

Ñanduti. (See, "Lace.")

National Library. (See, "Public Library.")

Naturalization. In order to become a citizen of Paraguay, it is necessary to make written application to Congress. Among the qualifications necessary are a residence of two years in the country, the possession of real estate, or the pursuit of some scientific, artistic or industrial profession. The term of residence required may be reduced at the option of Congress. No foreigner is eligible to the Presidency, nor can he become a Minister of State or member of Congress. Any other office, however, he may hold.

Navigation. By means of the rivers Paraguay and Paraná, the country is in direct communication with the Atlantic Ocean, as they are navigable at all times of the year to vessels of large tonnage drawing, according to the statement made by Señor Carlos R. Santos before the International Commercial Congress, as much as twelve feet. The Government reports state that a depth of water, amounting to thirteen feet, is found in the river for navigation purposes.

The arrival and clearances of vessels at Asuncion were as follows, in the years named :

YEAR	ARRIVALS	TONNAGE	DEPARTURES	TONNAGE
1889	933	36,503	930	33,735
1895	374	124,674	326	114,164
1897	367	132,592	—	—
1898	418	—	408	—

Navy. The navy consisted, in 1883, of a screw steam man-of-war of 440 tons, mounting four guns and having a crew of thirty-six sailors, commanded by four officers, and of three smaller steamers doing service in the ports.



Steam Tramway Line Running from Asuncion to the Recoleta (Cemetery)

Newspapers are numerous in Paraguay. Asuncion, the capital has six dailies, a number which no city of 51,000 in the United States is able to boast. These papers are printed in the Spanish language and contain all the news, including telegraphic dispatches from various parts of Paraguay, as well as cables from Washington, Rome, Paris and other leading news centres. The newsboys are met everywhere in the city, and sell their wares with as much avidity as in American cities. They receive what amounts to about two cents a copy.

Oil. Peanut oil, castor oil and oil made from the small Paraguayan cocoanuts are among the native products which should find a market in the United States. Europe to some extent also imports these oils and finds them excellent for soap making and other purposes. Oil distilled from the orange leaf is also made at Yaguaron, Valenzuela, and Caraguatay, and exported to Europe.

Oranges ripen in Paraguay nearly all the year round. One crop lasts about five months and the succeeding one five months, so there are only two months in which there is any scarcity. No country on earth equals this for the abundance, sweetness, size and flavor of this fruit; in fact, Paraguay is justly called the Land of Orange Trees. "It is," says Carpenter, "perhaps the only place in the world where the orange grows wild. There are oranges almost in every thicket and forest; villages are built in orange groves, and the abundance is such that millions of oranges annually rot on the ground for want of transportation."

From 1881 to 1890, the number of oranges exported from Paraguay to Buenos Aires and Montevideo increased from 23,958,850 to 65,000,000 per annum. Very little progress has been made as yet in making the fruit known outside of the River Plate countries. The United States Consul at Asuncion, in 1900, took a box with him to France and presented them, in the best of condition to the American Ambassador at the French Capital. This, and the experiment of Mr. Albert Jones, an American residing in Paraguay, who successfully shipped a cargo to London, where they brought good prices, would seem to prove that with proper packing and care they could be brought to the United States and sold in enormous quantities at the season of the year when our native oranges are not in the market. Ways and means for accomplishing this result are being considered by the Paraguay Development Company.

The President's last annual message shows that in 1900 there were under cultivation 73,012 orange trees.

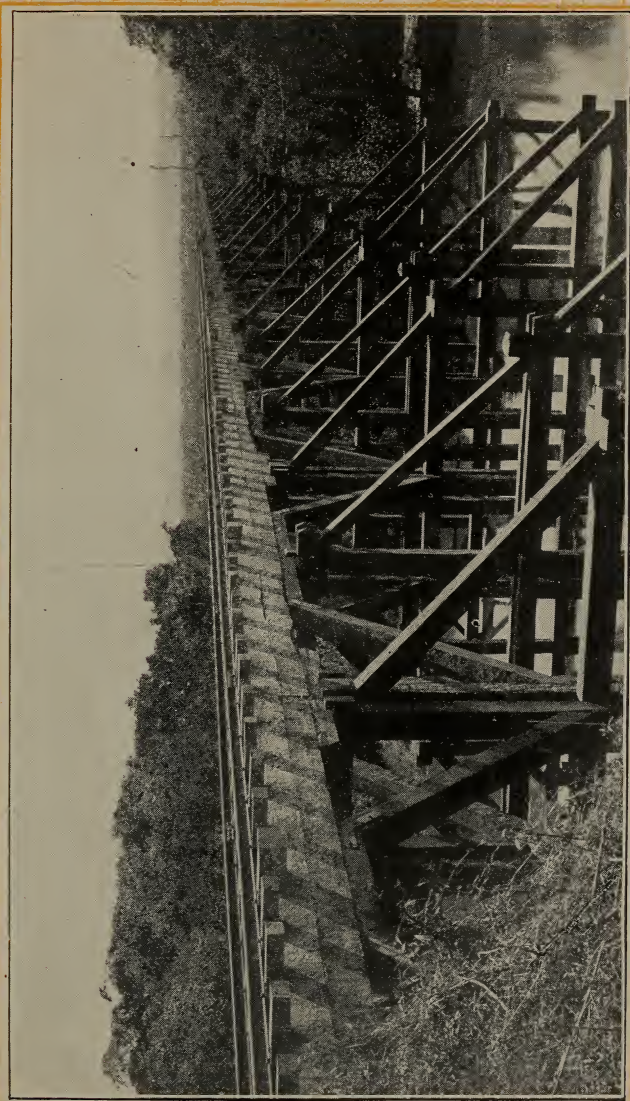
Paraguari, one of the noted towns of Paraguay, was founded in 1775. Its present population is about 10,000. It has a monthly traffic

of 300 ox-carts from the surrounding towns. Among its industries are, a tannery, two distilleries, a pottery, quarries, etc. Two large streams, with powerful currents are located within nine miles from the town. These streams would furnish horse-power for many factories.

Paraguay Development Company. This Company was incorporated under the laws of New Jersey, July 26, 1900, with an authorized capital of \$500,000 and has a very broad charter, being authorized among other things, to do the following : To open up and develop the natural resources of South American countries, and especially of the Republic of Paraguay ; to organize and conduct explorations ; to engage in the mining of common and precious metals ; to establish, lease or operate steamship lines ; to promote immigration ; to obtain and develop concessions of every kind ; to execute or provide for the execution of public improvements of every description, such as harbor works, docks, water works, railways, sewers and electric and other lighting plants ; to charge and discharge vessels ; to receive and store merchandise, issue warehouse receipts for the same ; to conduct financial negotiations and operations for governments or individuals ; to raise, produce, manufacture, import, export, buy, sell and otherwise deal in all kinds of edibles, food-stuffs, medical specialties, drugs, machinery, etc. ; to raise all kinds of cattle and live stock and manipulate, import, export, sell and deal in the same ; to purchase, lease, exchange, hire or otherwise acquire any and all rights, privileges, permits or franchises, suitable or convenient for any purposes of its business.

It is the purpose of the Company to take up and develop, successively, either on its own account, or through subsidiary companies, to be organized under its supervision and control, the various enterprises and projects which it has in view in Paraguay, and for several of which it already holds concessions from the Paraguayan Government, which, through its President and Ministers of State, has conveyed to the Company its assurances of hearty approval and co-operation in all its proposed enterprises. It has already obtained the following concessions among others : 1. For the exclusive public and private lighting, by means of electricity, of the city of Asuncion, the capital of Paraguay, for a period of twenty-five years, and the exclusive right, during the same time, of selling electric power for industrial or other purposes to all users of the same in the Capital. For the lighting of the city the National Government guarantees payment each month of the amount agreed upon under the contract, free importation of all materials and supplies. Exemption from taxation, for a period of twenty-five years, are among the privileges granted.

2. The exclusive right to establish and operate electric street rail-



Paraguay Central Railroad, Bridge Over the Tebicuary River

ways in the city of Asuncion and suburbs, for a period of twenty-five years.

3. A concession, which the President in his message of April 1, 1901, approves and recommends to Congress for a subsidy of \$1,800.00 to \$2,000.00 per trip per steamer, for a direct steamship line to be established between the United States and Paraguay. It is expected Congress, which is now in session, will approve this project and also the following, for which applications have been made.

4. A concession for the exclusive privilege to build and operate cotton weaving and spinning mills for a period of ten to twenty years; free importation during this time of everything needed for the establishment of such mills, donation of land, exemption from taxation, and exemption from import duties on raw material, until such time as sufficient cotton may be obtained in Paraguay. The Government agrees also, to protect the industry by favorable tariff legislation.

5. A concession for the establishment and operation of water works for the city of Asuncion, for a period to be agreed upon.

6. A concession for a railroad to run from Villa Rosario on the Paraguay River to Igatimí, the most fertile region of Paraguay, in which, among other things, may be obtained a forty years' supply of beautiful hardwoods, and where also are located the yerbales, from which millions of pounds of Paraguay tea are annually brought to market.

7. A concession for harbor works and docks in the port of Asuncion, with Government guarantees for payment of the work as it progresses.

8. A concession for a large slaughtering, packing and refrigerating establishment, which can be established under the most favorable conditions as the cattle of Paraguay can be brought to market much earlier and cheaper than in Argentina and Uruguay.

9. A concession for the establishment of a large cassava starch factory, equipped with the very latest improved machinery, and erected under the supervision of an expert chemical engineer, who has made the manufacture of starch from mandioca a special study

The Company will also actively promote the extension of commerce between Paraguay and the United States, by finding a market in this country for the products of the former, such as tobacco, hides, oranges, starch, cocoanuts, oils, hardwoods, fibres, laces, and many other articles, sending in exchange such manufactured articles, machinery, etc., as Paraguay is in need of and ready to buy from the United States. The officers of the Company are as follows: Tito Aicardi, President; A. A. Rutis, Vice-President; William Mill Butler, Secretary, Treasurer and General Manager.

Paraguay River. This great stream has a total length of about 1,800 miles, and may be termed an affluent of the Paraná, just as the Missouri is of the Mississippi. It has its rise in a chain of lakes, known as the Seven Lagoons, in Brazil, and flows south with a swift undeviating current, until it reaches Paso de la Patria, where its waters join those of the Paraná. The average width of the Paraguay is 360 yards and its mean depth 20 feet. The current runs 1 mile per hour, or 90 feet per minute, and has an average fall of 10 inches per mile from its source to Asuncion. Carpenter states that steamers drawing as much as nine feet of water are at present running on the river, and government and other reports state that it is possible for steamers drawing as much as twelve to thirteen feet to come from the Atlantic to the National Capital. Mr. Nixon, proprietor of the shipyard at Elizabeth, N. J., and designer of the famous U. S. battleship "Oregon," some time ago assured the Paraguay Development Company that he considered it feasible to design a fleet of steamers to carry freight between this country and the city of Asuncion on a profitable basis.

Paraná River. This giant stream rises in the mountains of Goyaz, Brazil, and has a length of 2,043 miles from its source to the River Uruguay. It is divided into four sections, as follows: 1. From San Bernardino to Corrientes, 676 miles; average width, 2,400 yards; average depth, 90 feet. 2. From Corrientes to Iguazú, 492 miles; average width, 1,500 yards; average depth, 70 feet. 3. From Iguazú to the Falls of Guayrá, 210 miles; average width, 1,200 yards. 4. From the Falls of Guayrá to Goyaz, 665 miles, average width, 1,500 yards. The Paraná would be navigable throughout its entire length for vessels of the largest size if its upper waters were not closed by the cataracts of Urupungua and Guayrá. It is navigable up to Corrientes the year round; between Corrientes and Guayrá Falls it is navigable for small steamers.

Peaches grow in Paraguay to some extent, but do not thrive as well as other fruits.

Peanuts grow prolifically in Paraguay, and three crops are harvested per year. There were under cultivation in 1900, according to the President's message, about 15,527 acres. Peanut oil is a staple product.

Pineapples are grown in large quantities and yield two crops per annum. In 1900 61,131 plants were under cultivation, according to the report of the bureau of agricultural statistics.

Plate River System. This river system has a volume of water greater than that of the Mississippi, and is exceeded only by that of the Amazon. It drains a basin half as large as the whole United



PICTURE BY HENRIETTA C. M.

San Bernardino Colony, on Lake Ipacarai

States. Into the River Plate empty the Rivers Uruguay, Paraná, Paraguay and their tributaries.

Political Parties. There are two principal political parties in Paraguay; the Civico, or Citizens' Party (the "blue,") and the Colorado Party (the "red"). The Colorado Party is the party at present in power, and it is made up and cemented together largely by old war generals, who have united under its banner. There is also the Partido Liberal, which is the party standing between the other two.

Population. The population of Paraguay in 1857 was returned at 1,337,439. In 1873, after the five years' war with Brazil, Argentina and Uruguay, the returns showed but 221,079, including 28,746 men and 106,256 women, over fifteen years of age, the rest being children. While the accuracy of these figures is questioned by some authorities, they appear to be somewhere near the truth, as travelers who passed through the country at the close of the great conflict, all testify to the utter desolation and ruin which appeared everywhere. (See, "War.") In 1876, the census gave a population of 293,844. In 1894, it was estimated at 430,000. The census returns for 1899 gave 655,571, including 100,571 Indians. Carpenter, in his book on South America, written about this time, stated that Paraguay had then 700,000, but, according to the President and Secretary of Foreign Affairs, could easily feed 7,000,000 and still leave much of the country uncultivated and unused.

The last annual message of the President of Paraguay, delivered to Congress on April 1, 1901, gives the result of the census of the previous year, showing that there are 635,571 inhabitants, of whom 18,183 are foreigners. This enumeration does not include the Indian tribes, which would add over 100,000 more.

The population of Paraguay is made up of pure whites, who are mostly immigrants or descendants of immigrants, settled in the country during the last thirty years; pure Indians, among whom the Guaranís predominate (See, "Indians"); a very few negroes, who were introduced into the country after the days of Spanish rule; and the offspring of the mixture of the various races, among whom the Spanish-Indian is the leading stock.

Postal Service. Paraguay entered the Universal Postal Union July 1, 1884, although its postal service was established much earlier. Statistics show an increase since 1880 as follows:

YEAR	DOMESTIC LETTERS	FOREIGN LETTERS	TOTAL
1880	20,796	46,538	67,335
1886	130,740	92,847	304,617
1891	470,185	628,938	1,099,123
1900	1,102,173	627,705	1,729,878

Although, as in other countries, the service is not self-sustaining, the increase in the number of letters sent and received, both foreign and domestic, is another index of the progress which Paraguay is making.

Prisons. Very few prisons are necessary in Paraguay. The chief one is the penitentiary at Emboscada, which has just been completed, and is occupied by prisoners removed to it from the public jail in Asuncion. The new institution possesses modern requirements for security and hygiene, including also spacious workshops, which are in charge of a competent director. There is also a penal colony, created by the law of November 19, 1898. The President's last annual message states that: "There have been sent there a number of thieves and vagrants, in accordance with the provisions of said law."

Products. The climate and soil of Paraguay is such that not only the products of tropical countries, but those of semi-tropical and temperate zones can also be raised in great abundance. Here is a partial list of products which grow to the best advantage: Alfalfa, bananas, castor beans, cocoanuts, coffee, cotton, grapes, lemons, maize, mandioca, melons, oranges, peanuts, pineapples, ramie, rice, sugar cane, tobacco, tomatoes and yerba maté. The statistical data furnished in the annual message of the President, shows that in the year 1900 the following were the leading crops under cultivation:

Maize	about	127,434	acres.
Mandioca	"	101,889	"
Beans	"	44,693	"
Tobacco	"	25,804	"
Sugar Cane	"	16,201	"
Peanuts	"	15,527	"
Rice	"	5,373	"
Total		336,921	"

In addition to this, there were reported under cultivation:

Cotton	328,053	plants.
Coffee	191,673	"
Castor Beans	260,830	"
Oranges	72,012	trees.
Pineapples	61,131	plants.
Bananas	47,697	"
Total		962,296

Of Alfalfa, there were about 2,800 acres under cultivation.

Public Debt. In his annual message delivered to Congress on April 1, 1901, President Aceval said: "Beginning with the year 1900, there was commenced the amortization of one-half per cent. per annum



Lakeside Hotel, San Bernardino Colony

of the afore-mentioned external debt in conformity with the agreement authorized by the law of the 16th of November, 1895, it becoming reduced in this manner in 1901 to the sum of \$4,946,333.96 gold."

In addition to this reduction of the foreign indebtedness, which bears only four per cent. interest, the President called attention to the fact that the internal indebtedness was reduced by \$34,270 during the previous year and now amounts to but \$145,417.50, thus making the total home and foreign indebtedness \$5,091,751.46. The message also states that the government attended punctually to all obligations of the State during the year.

In this statement we do not include the so-called war debt which was imposed by Brazil, Argentina and Uruguay as a result of the struggle of 1865-1870 (see, "History" and "War"). Uruguay generously wiped out the score by formal legislation, on April 20, 1883, acknowledging that indemnity should not have been imposed. Brazil has already shown that her leading statesmen are likewise minded, and when she formally cancels the obligation, Argentina will not be behindhand in doing the same, as it has always been understood that these two great countries have held Paraguay to the indemnity up to the present time more as a mutual pledge or hostage for peace. Thirty years after the war no one will argue that any such pledge is longer necessary. Paraguay is intent only on her rehabilitation in the paths of commerce and industry, and the advancement and prosperity of her people in the peaceful arts. Nor would any neighboring nation dare without just cause to disturb her peace or take another inch of her territory. Therefore, it is thought that the war debt will be happily wiped out before long in a most satisfactory and honorable manner to all concerned, and for this reason we do not include the \$9,876,466 indemnity of Brazil and the \$13,423,423 indemnity of Argentina in a statement of the public debt. Without these sums, the indebtedness of Paraguay is less than \$8.00 per capita. Compare this with the per capita of the United States or any other country.

The foreign loans of Paraguay were negotiated in London, in 1871 and 1872, through Messrs. Robinson, Fleming & Co.

Public Instruction is free in Paraguay, and is divided into primary, secondary and superior grades. The President's last message states that in the higher educational institutions 716 matriculated students attended during the term of 1900-1 as follows :

National University	89
National College at the capital	439
National Colleges in the country	188
Total	716

Of the 2,313 students inscribed 588 have presented themselves for examination.

The faculty comprising the secondary and superior courses of instruction numbers 66, as follows :

Instructors of the Faculty of Laws and Social Science	10
Instructors of the Faculty of Medicine	10
Professors at the National College in the capital	25
Professors at National Colleges in the country	21
Total	66

Public and private schools are distributed as follows :

	CAPITAL	COUNTRY	TOTAL
Normal Schools	2		2
Graded "	6	9	15
Primary "	16	229	245
Private "	10	97	107
Agricultural Schools,	1		1
TOTALS,	35	335	370

The number of students who receive instructions in these schools is shown in the following table :

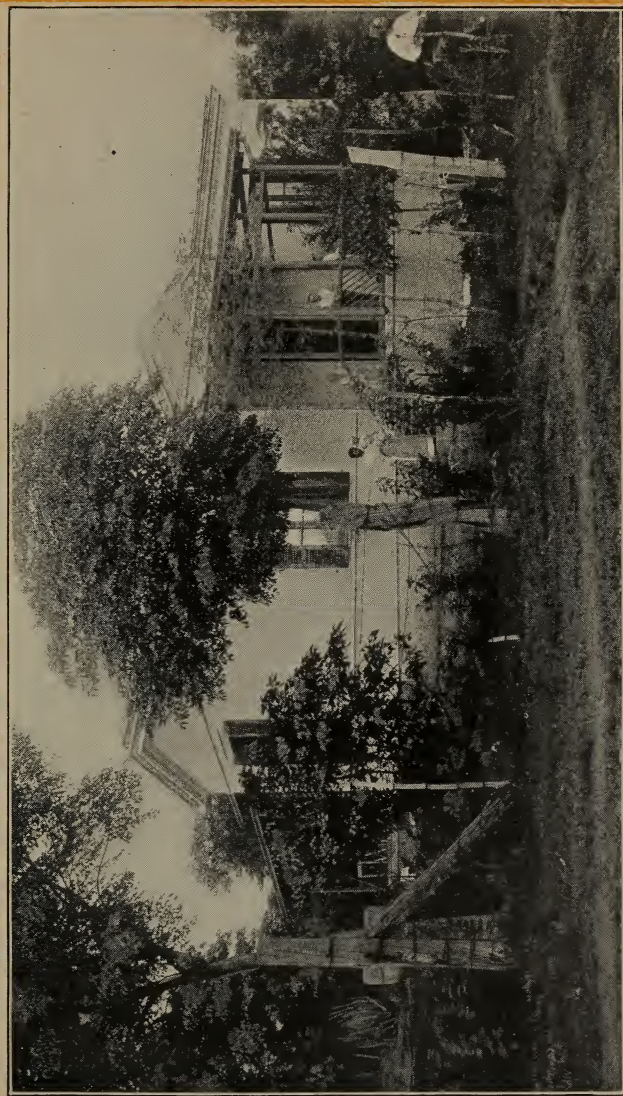
	CAPITAL	COUNTRY	TOTAL
Normal Schools	143		143
Graded "	2,204	1,666	3,870
Primary "	1,690	15,039	16,729
Private "	1,000	3,395	4,395
Agricultural Schools	110		110
TOTALS,	5,147	20,100	25,247

The force of instruction at these schools is as follows :

	CAPITAL	COUNTRY	TOTAL
Normal Schools	59		59
Graded "	62	67	129
Primary "	45	381	426
Private "	32	99	131
Agricultural Schools	7		7
TOTALS,	205	547	752

The entire amount appropriated for public instruction in 1900, was \$174,500.

Independent of the schools which have been enumerated, mention



Typical Country Home, San Bernardino Colony

should also be made of the Instituto Paraguayo, which provides courses in physical instruction and art for the youth of Paraguay. It has six departments, 335 matriculated students and twelve professors. It was maintained at a cost of \$5,343.30 during the past year.

Public Lands. In addition to the Chaco, or Indian territory, which has an area of about 30,664 square miles, it was estimated in 1870 that the public lands in the eastern portion, or Paraguay proper, amounted to 74,640 square miles including 42,600 square miles of arable land, 27,000 of mountain and forest lands and 5,040 square miles of yer-bales. This estimate left about 17,360 square miles of private lands in the Republic. Much of the public land has since then been disposed of. The sales in 1887, for example, were reported to have amounted to \$1,408,123.

The Paraguayan land law of 1885 divides the public lands into five classes, and provides for their sale at the following prices :

First-class lands,	\$1200	per square league (12½ English square miles).
Second-class,	800	" " "
Third-class,	300	" " "
Fourth-class,	200	" " "
Fifth-class,	100	" " "

Of the purchase price twenty-five per cent. must be paid down ; the balance in three annual payments ; or the entire amount may be liquidated at any time, in which case a reduction of twelve per cent. per annum is allowed from date of payment.

Public Library. Asuncion has a public library established in a very handsome library building, which was completed in 1899. The number of volumes contained therein at that date were reported to be 5,819, including 3,319 well-bound books.

Public Works. The Government of Paraguay annually devotes a portion of its revenue to the execution of public works. For example, there were completed in 1898, wharf improvements at Asuncion, extension of wall, addition to custom house, construction of edifice in Villa Encarnación, addition to the National Penitentiary, and other improvements, amounting in all to \$35,579.

The President in his last message to Congress states that in accordance with the law creating the commission of public works, attention has been given to the following constructions: A church at Villa Hayes; barracks and military hospital in the same place; a commissary building at Arroyo Seco; addition to the penitentiary at Emboscada; repair of police headquarters at Villa del Pilar; repair of the public jail; repair of police headquarters at Paraguari; completion of the custom house building at Villa Encarnación, and the construction of a large

warehouse at the custom house in Asuncion. The estimated total cost of these improvements, for which contracts were awarded, was \$322,959.

Quebracho Wood is one of the most valuable dyewoods, and the extract made from it is also largely used for tanning purposes. The forests of Paraguay contain an enormous supply of this wood. It is claimed that its great hardness makes it more difficult to obtain the extract from it than is the case with the quebracho of Argentina. While this fact makes it somewhat difficult to work Paraguayan with other quebracho, it is no drawback when the extract is made on the spot where the machinery and process is especially adapted for its requirements. It is expected that quebracho extract will be made in large quantities in Paraguay and will find a ready and profitable market in the United States as well as other countries.

Railway, Paraguay. Paraguay was the first country of South America to build a railway, which was begun as a government enterprise, under Dictator Lopez, in 1859. The engineers were Messrs. Burrel, Valpy and Thompson, who had 6,000 soldiers for workmen. The road was built in a solid manner as far as Paraguari, forty-five miles from Asuncion, and about half way to Villa Rica, the proposed terminus, when the war broke out and put a stop to the work. (See, "War.") Subsequently, the wear and tear of transporting troops from Asuncion to Azcurra, left the line in a ruinous condition, until it was repaired by Messrs. Travasso & Co. in 1876 and 1877. By virtue of a law passed on the 22d of September, 1887, the government of Paraguay was authorized to sell the railroad from Asuncion to Villa Rica to Dr. William Stewart, for the sum of \$2,100,000, with the obligation of the purchaser to extend the line to Villa Encarnación. Dr. Stewart subsequently transferred the contract, as he had a right to do under its provisions, to English capitalists, who formed what is now known as the Paraguay Central Railway Company, Limited.

Dr. Stewart's contract provided that one-half the amount stipulated therein should be paid to the government in cash; the other half in proportion as each new section of the road, which was to be built, should be opened up for public service. The government guaranteed to the purchasers an income of six per cent. for twenty years, on the road from Asuncion to Villa Rica, and six per cent. also on the cost of construction of the extension, at a valuation on which interest was to be paid not to exceed, however, more than \$30,000 per kilometer of road.

The building of the road from Villa Rica toward Encarnación has been slow work, and at the present time it is completed only as far as Pirapó, the entire number of miles open for traffic on April 30, 1900,

being 155. For the year ending on that date it had carried 566,455 passengers, an increase of 22,320 over the previous year; the number of tons of goods and parcels transported was 60,855, an increase of 563 tons over the previous year. The gross receipts amounted to \$168,375, and the expenses to \$104,375, leaving a balance of \$64,000. The first section of the road, from Asuncion to Paraguari, is forty-five miles long; the second section, from Paraguari to Villa Rica, forty-eight miles long; and the third section, from Villa Rica to Pirapó, sixty-two miles.

Originally projected as a strategic road, and used as such during the only war which Paraguay ever had, the line cannot be regarded as desirable, commercially, as it would be had it been projected and carried out for a different purpose. Largely traversing uninhabited regions, where there were few forests of any account, such as there are in the north, and supplying communication in a territory which is almost exclusively devoted to cattle raising and agriculture on a small scale, it cannot be expected to be more successful, financially, than it is. The Company has made considerable money in buying and selling lands, however, and as seen by the statistics above quoted, is not sustaining any loss, especially when the Government guarantee upon the investment is taken into account. The Government of Paraguay has been anxious to have the road completed, in order to make connections with the Argentine Railway at Posadas, which is on the opposite side of the River Paraná from Villa Encarnación.

Railway, Proposed. The proposed railway to the yerbales from Villa del Rosario to Igatimí, with extension later on to Potrero Loté, is a project which promises to be much more profitable than the existing railway. The preliminary plans placed in the hands of the Paraguay Development Company are made by Sr. A. Meneghezzi, ex-President of the National Department of Engineers, and show, among other details, the following: The first section of the road is intended to run from Villa del Rosario on the River Paraguay in a northeasterly direction toward San Estanislás, a distance of 77,900 meters, and passing the town of Itacurubí; a second section from San Estanislás to Rio Corrientes, a distance of 56,290 meters; the third section from Rio Corrientes to Igatimí, a distance of 58,270 meters; and the fourth section from Igatimí to Potrero Loté. The entire length of the line from Villa del Rosario to Igatimí would be about 118 miles. The engineers estimate that the road, when completed would have a traffic worth \$611,825 per year in transporting yerba maté, passengers and general merchandise. This would be nearly three times as much as the receipts of the Paraguay Central Railroad which has 155 miles of road in operation. The present production of maté in the region to be traversed by the new railway, which is taken into account in the

estimate, is about 38,250,000 pounds per year, and this would be more than doubled in a short time. The only present mode of transportation is by the River Jejui, in boats, and when the water is low there are long delays in transportation, sometimes a whole year and more, all of which are bad, as the maté deteriorates in quality, and there is a loss on capital invested. Hides, agricultural products and fine woods would be carried in large quantities. A more than forty years' supply of the very best kinds of hardwood would be opened up. Also rich regions of limestone and other products.

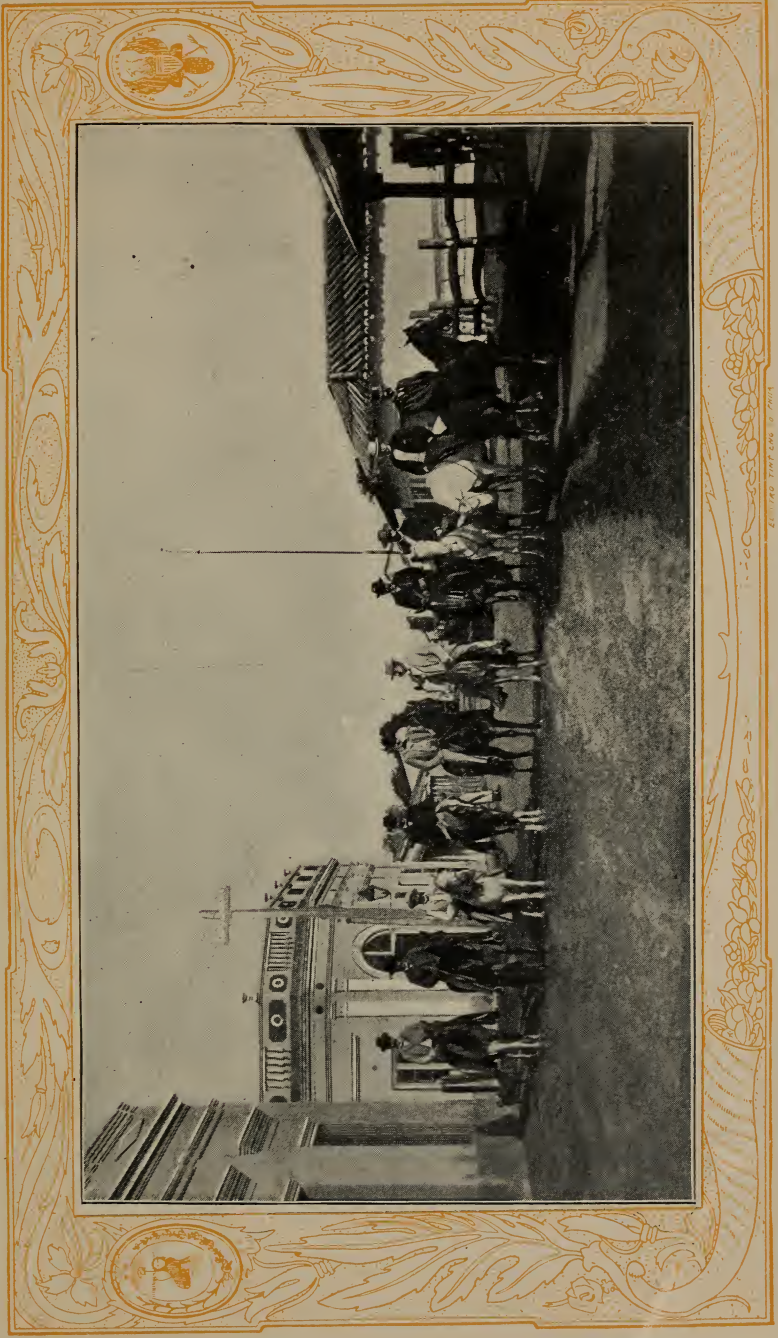
Rainfall. Mr. Henry Mangels, German Consul at Asuncion, carefully observed the annual rainfall there from 1877 to 1886, and officially reported the average to be 61.8 inches per annum during that period. The rainfall in Paraguay is well distributed, droughts being exceedingly rare. October and April are the months in which there is the greatest rainfall, but there is no fixed rainy season, such as is found in the tropical zones. Compared with the records of Key West, Florida, in a corresponding latitude, the records at Asuncion show more than twenty-six inches greater precipitation. Mr. Mangels adds: "During fifteen years we have not passed one month without rain. In seven years, from 1877 to 1883, inclusive, the average number of rainy days per year was 79; of cloudy days, 72; and of clear days, 214."

Ramie grows very abundantly in Paraguay, and if the difficulty of cleaning it could be overcome, it could be made an important article of export.

Religion. The predominant religion in Paraguay is the Roman Catholic Apostolic, but the free exercise of other religions is guaranteed by the constitution. The city of Asuncion is a bishopric, and the government contributes liberally toward the erection of edifices and the maintainance of a seminary, in which thirty-six students are in charge of five professors. Work is progressing rapidly upon the handsome new church of the Incarnation in Asuncion, an illustration of which, taken several years ago, is found in the present volume.

Among other denominations represented in Paraguay, are the Lutheran and the Methodist Episcopal Churches. The latter has two schools in Asuncion, one for boys and the other for girls.

Revenues. The revenues raised by the government of Paraguay chiefly consist of duties on imports and exports, sale of government lands, rent of yerbales, patents, official seal paper, postage stamps, government stamps, etc. The President's last message to Congress notes a large increase in the revenues of 1900 over those of 1899. The customs duties received from imports and exports amounted to \$1,053,-



Owners of Cattle Ranches, Villa del Pilar

588.17, and the direct taxes collected amounted to \$140,307.53, making a total of \$1,193,895.70.

Revolutions. We have already emphasized in other parts of this volume the fact that Paraguay is not a country of revolutionary disturbances, such as too often break out in other South American countries, and make investors in the United States timid about placing their capital. The only war which Paraguay ever had, with the exception of its assertion of its independence from Spain, was a five-years' conflict with Brazil, Argentina and Uruguay combined. This was from 1865 to 1870. Since then no country on the face of the globe has been more peaceable. (See, "War.")

Rice is cultivated to some extent in Paraguay, and yields as much as 250-fold, two crops being harvested per annum. It is also found in some parts growing wild on the banks of creeks and rivers. The President, in his last annual message, reports that 5,373 acres were under cultivation in the year 1900.

Roads. The rivers of Paraguay afford such excellent means of communication that roads, up to the present time, have not been very numerous nor very well constructed. The best-known roads are those in the valley which extends from Asuncion to Villa Encarnación. There are also certain well-frequented roads leading to the yerbales, but as a rule, communication by land is attended with considerable difficulty.

Rosario. (See, "Villa Rosario.")

Rubber. The Bulletin of the Bureau of American Republics states that the manga icé, or India rubber tree, grows abundantly in the northern part of Paraguay, and yields an article of excellent quality.

The learned naturalist, Balanza, in his studies of the Flora of Paraguay, confirms this statement from personal observation, saying: "In tropical and equatorial regions the plants which produce rubber generally belong to the *artocarpeas*, *euforbiaceas* or *apocineas*. In Paraguay many trees may be utilized to obtain this product.

"A Bolivian recently visited the Department of Villa Concepción where he met with a great number of rubber-bearing trees, and he assures me that in the abundance and purity of the product they do not fall behind those which he worked some time ago on the banks of the Madera and Amazon.

"Near Paraguari there abounds also a genus *ficus*, which on tapping exudes a milky juice rich in rubber. Lastly, on the plains of Pirayú-bi there grows in profusion in the forests, on the banks of streams, an *euforbicea*, whose trunk, five or six meters high, might give considerable quantities of this product."

The diploma of honor was awarded at the Exposition Universelle, at Barcelona, for an exhibit of Paraguayan rubber.

Rum. A kind of rum called caña is made in Paraguay from molasses obtained from sugar cane. It is highly prized for its medicinal qualities, and when it has acquired age brings a higher price than any other caña at the River Plate region. It is largely used in the country and also exported to some extent.

Salt. It may seem strange that Paraguay practically imports all its salt, when it has valuable deposits of that article which might be worked. In a report made under date of December 16, 1898, the United States Consul at Asuncion called attention to some salt mines situated six miles from Asuncion along the river Paraguay. No attempt has been made to develop the deposits with the exception that a rude evaporating pan and an old-fashioned well, about three yards deep and a yard in circumference, are worked by a man and a boy. The imports of salt amount to about 46,000 tons per year.

San Pedro, situated on the River Jeju, near its confluence with the Paraguay, has about 2,000 inhabitants, according to a Consular Report made in 1899. It is an important headquarters for the yerba maté trade, more than 7,500,000 pounds being annually brought to market there from the yerbales. Oranges, coffee, rice, sugar cane and maize are also largely produced in the district.

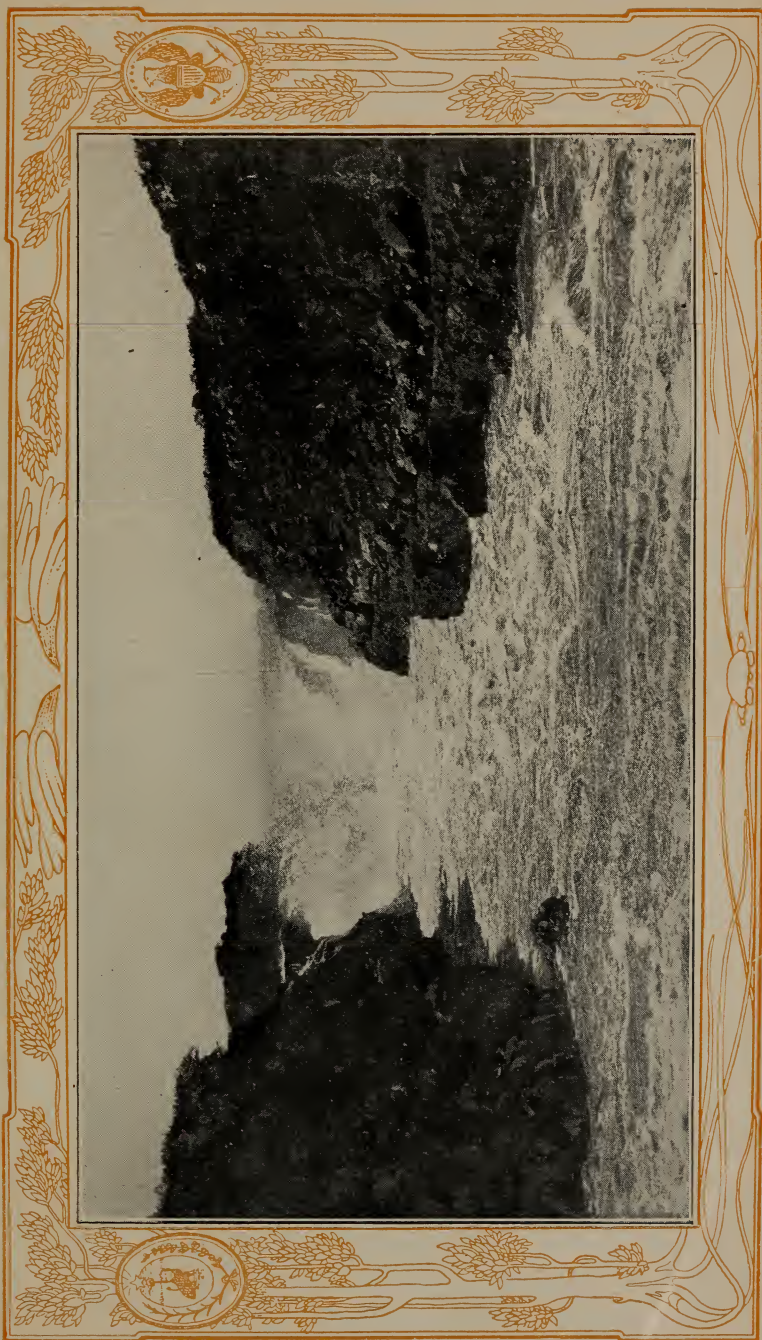
Seasons. The year in Paraguay is divided into two seasons, one of which, called Summer, lasting from October to March, and the other, called Winter, lasting from April to September. The hottest months are December, January and February, and the coldest, May, June, July and August. The most temperate month is April.

Shipping Facilities. (See, "Steamship Line.")

Slaughtering Establishment. (See, "Cattle Industry.")

Soil. "If it be true, as political economists teach, that all wealth comes out of the ground, then Paraguay can challenge comparison with any land on the globe," says Dr. E. M. Flagg, formerly U. S. Vice-Consul at Asuncion. "It is naturally one of the richest countries in the world." Others who have been there bear similar testimony.

Signor William Godio, the Italian explorer of Africa and the Plate Basin, in an address before the Geographical Society at Buenos Aires, in 1886, said of the eastern portion of Paraguay: "One thing alone is fixed in my mind, so that it absorbs and astounds me. It is the fertility of the soil. How shall I be able to make them believe in my country, where at present the grape fruits after five years, that I have seen with



Guayra Falls, Paraguay

my own eyes grapes hanging from shoots planted one month before? Who will believe me when I say that I have seen mandioca of over three meters (9.84 feet) in height? Who will believe me when I say that they obtain yams of 30 pounds weight?"

The Bulletin of the Bureau of American Republics declares: "The fertility of the greatest part of the Paraguayan soil is almost inexhaustible."

Statistics. A Bureau of General Statistics has been established by the Government of Paraguay, and in accordance with the law of November 19, 1898, there have been organized in all the departments of the Republic, special commissions, charged with the duty of collecting statistics concerning the crops.

Steamship Line. As already explained, Paraguay does not receive the credit which is due her for her commerce, as most of the exports, owing to want of direct steamship communication, are merged with and reported in the public statistics, as coming from neighboring countries, in whose ports the goods are gathered by the exporters, and then sent abroad. A direct steamship line between Paraguay and the United States is of the utmost importance, and will do much to open up more intimate commercial relations between this country and our sister republic. The Paraguay Development Company, after studying this subject, has made a proposal to the Government of Paraguay, which is warmly recommended by the President in his annual message delivered to Congress April 1, 1901. He says:

"The Government has received from the Paraguay Development Company of Philadelphia, through our Consulate-General in that city, a petition for a subvention for a line of steamers which said Company proposes to establish between Paraguay and the United States of North America, which matter will in due time be submitted to your consideration.

"Regarding the importance of this initiative permit me to call and urge from now on your preferred attention thereto, taking specially in account the sensible necessity of our industry and commerce to search and establish new and larger markets, which, facilitating their expansion, would contribute positively to its progressive development. These results cannot accrue to any country without fomenting and protecting by all available means its means of transportation and communication with the rest of the world."

One of the largest shipbuilding companies in the United States has signified its readiness to coöperate with the Paraguay Development Company, furnish the necessary vessels, and establish the line, providing the subsidy asked for is granted.

Stock Raising. (See, "Cattle Industry.")

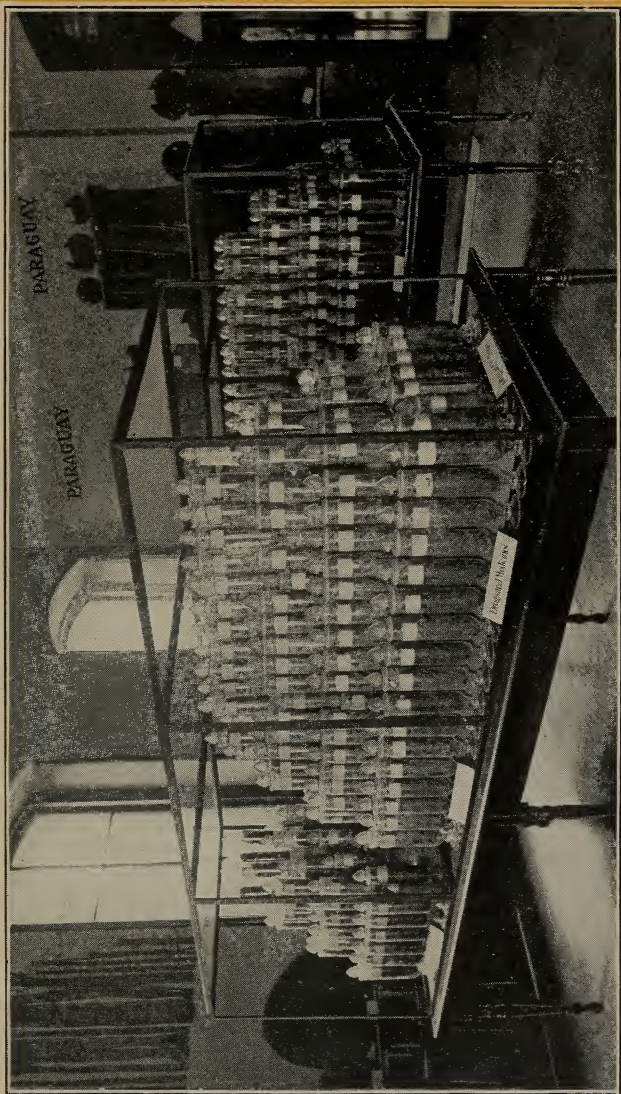
Street Railways. The principal street railway in Asuncion is operated by mule power, and has one branch running out into the country on which steam power is employed. There is a second smaller concern, which runs what was started as a freight line out to Tacumbú, and now also carries passengers. The British consul, in a report on the commerce of 1899, stated that the tramways in Asuncion carried 870,546 passengers during that year. (See, "Electric Lighting, Traction and Power.")

Sugar production ought to be a large and profitable industry in Paraguay, and with modern appliances and enterprise there is no reason why the cultivation of sugar cane should not increase enormously. The cane grows very abundantly, giving three crops per annum. Each cane is about two inches in diameter and six to eight feet high. Thirty tons of sugar are obtained, on an average, from each hectare of land under cultivation (one hectare equals 2.47 acres). Most of the cane is now treated in a primitive manner, being used chiefly in producing caña, a native rum, and a thick molasses, which is stored in bags of hide until required for use. There is one modern sugar mill, situated on the Tebicuary River and the Paraguay Central Railway, in which considerable capital has been invested, but this is only a beginning.

According to the President's annual message, 16,201 acres of sugar cane were under cultivation in 1900.

Tariff. Under the new custom house tariff for 1900, the following merchandise is admitted free of duty :

Barley (without husk), bars for mines, bicarbonate of soda (impure), books (printed), bottles (common, empty, holding at least a liter), carbon of calcium, cattle (breeding), cattle remedies, cement (Roman and Portland), coaches (for industrial and agricultural establishments), coal, crossties for railroads, demijohns (empty), engines (steam) and their utensils, fences (wire), fire extinguishers, fish (fresh), fruits, furniture of immigrants representing little value, globes, hoes, horses (large), implements (agricultural), instruments (scientific), locomotives, machetes, machinery and pieces of machinery belonging to industrial establishments and to agricultural machinery and for steamers, materials and utensils used exclusively for printing and lithography, maps (geographical), music (printed), naphtha (impure), pipes (water), plants or branches of the same, plows, potash, powder for mines, rails (steel and iron), religious objects, resin for soap, rods (gas rods of iron), salt (rock salt for cattle), scythes, seeds (not to be used for consumption), soda (calcined), soda (silicates of), sulphate of copper, switches, tar, telegraph wire, tourniquets, tram freight cars for industrial and agricultural establishments, turn tables, vegetables (fresh), wheels (small, for



Partial View of Paraguayan Exhibits, Commercial Museum, Philadelphia

trains or railroads), windmills, wire (iron or steel, galvanized or not galvanized, to No. 14 inclusive), barbed iron or steel wire for same purpose.

On goods other than the above enumerated, the duties range from 2 per cent. ad valorem to 80 per cent. ad valorem, according to schedule.

All the products and manufactures of Paraguay are free of export duties, excepting the following: Skins (cattle), dry or salted, 25 cents each; skins (defective or with holes), 30 cents each; tobacco in leaves, without custom house inspection, five cents per ten kilograms (22 pounds); yerba maté (leaf or broken), 15 cents per ten kilograms; yerba maté (ground), 13 cents per ten kilograms.

Telegraph. Paraguay had the first telegraph line in operation in South America. Several lines go out from Asuncion, the most important one south to Paso de Patria, where a submarine cable joins this system, through which communication is had with the outside world. This line was finished in 1884. There are 155 miles of line running parallel with the Paraguay Central Railway. The total number of miles of wire in the Republic, in 1894, was 360. In 1898, 50,894 telegrams were sent and received in Asuncion. In 1900, according to the President's last message, a total number of 83,560 messages were sent and received, divided as follows: From abroad, 25,075; sent abroad, 23,267; domestic telegrams received, 17,985; domestic telegrams sent, 17,233.

It is noted that another cable now exists at Villa Franca, which, crossing the River Paraguay, joins the Argentine line on the Chaco side. There is also in process of construction a branch from Humaitá to Curupaty, where another cable will be placed which will join the Paraguayan line with that of Argentina at the colony of La Palma, so that there will be three lines of communication with the outer world. Other telegraphic lines have been authorized by Congress, and will be completed as quickly as possible. Among the improvements proposed is an extension of the line from Villa Concepción as far as Bahia Negra.

Telephones. Carpenter, in his book on South America, calls attention to the fact that Asuncion is equipped with telephones, which are owned by a stock company that pays dividends at the rate of twenty-four per cent. per annum, though its telephone rates are lower than any in the United States. Business houses pay only \$2 per month, and for residences the monthly charge is only \$1.50. The telephone service was inaugurated in Asuncion in 1884, when a seven years' concession was granted to the company. The telephone exchange is open day and night, and about a dozen girls are employed there. The Manager is

Señor Federico Fernandez. Asuncion is also connected by telephone with Luque, Villa Mora, San Lorenzo and Lambaré. The city of Villa Concepción has a telephone service of its own.

Temperature. (See, "Climate.")

Textile Plants. Paraguay produces many fibrous materials of great commercial value. A simple list of those which are capable of being utilized for industrial purposes would be tedious. To mention only a few of the more important, however, we may say, that cotton grows in Paraguay all the year round. Ramie produces not less than eight crops a year. Former U. S. Vice-Consul Flagg, calls attention to the fact that ibrya is a plant with a long, delicate, strong fibre, which does not rot. In this country, with improved machinery, it could be turned into something very like silk. Caraguatá is another valuable textile plant of the same kind, which grows spontaneously in every part of the Republic. The fibrous substance is contained in its long thick leaves, and not in the bark as in jute and ramie. Caraguatá is thought by some to equal the Indian jute. Rope and twine made from it are practically indestructible. Sansaverde is another fibrous plant which might be employed for making imitations of silk. Stronger ropes than those made from hemp, are produced from guembepi, a creeper with long filaments contained in its bark. These ropes may be kept for a long time in water without rotting, and a great demand for its use in rope making must ensue when these facts become known.

Timber. (See, "Woods.")

Tobacco is one of the chief agricultural products of Paraguay, and is cultivated everywhere, no less than three crops being obtained annually. Especially fine tobacco is grown in the districts of Luque, Itaguá, Ita and Villa Rica. The Bulletin of the Bureau of American Republic says: "It is well known that the tobacco of Paraguay is of a superior quality, and can well compete with that of Bolivia, or even with the celebrated Havana tobacco." Many other authorities on the subject agree that Paraguayan tobacco, when properly cured, is equal to the best produced in any country in the world. It obtained prizes at various European expositions, among others, the Exposition of 1855 in Paris, of 1889 in Antwerp, and in Barcelona, at which it received a gold medal. Many years ago, the Vuelta Abajo seeds were brought from Cuba and planted in Paraguay, and as in the case of the orange, were greatly improved by transplanting, says Dr. Flagg. At the present time, however, very little is cultivated suitable for the American market, because nearly everyone in Paraguay smokes and likes a tobacco heavily charged with nicotine. Lately, however, efforts are being



made to change this, and when a demand is created in the United States, suitable tobacco will undoubtedly be grown down there. In fact the Banco Agricola has recently erected several driers in which the tobacco is cured after the Cuban system. In a letter received by the Paraguay Development Company from the Hon. William I. Buchanan, Director of the Pan-American Exposition, under date of July 25, 1901, he says: "Paraguayan tobacco, if put in a form which is desirable, will no doubt find a market in this country. The general facts are that the tobacco is too coarse and requires, in my judgment, that there should be sent to Paraguay some thorough tobacco man from Cuba, who is familiar with the growing of tobacco for the market of the United States." The Paraguay Development Company is taking the necessary steps in the matter, so that a good trade may be looked for in the near future.

Recent advices received by the Company, state that the last lot of tobacco sent to Europe by the Banco Agricola brought 65 cents gold per kilo, or 29½ cents per pound. The total exports of tobacco amount in value to over one-half million dollars per year. The total area under cultivation in 1900, as stated in the President's message, was 25,804 acres.

Tomatoes produce two crops per annum in Paraguay, and are exported in large quantities to the neighboring Republics.

Topography. That portion of Paraguay lying east of the River Paraguay is traversed from north to south by a broad, irregular belt of highlands or plateaus (whose elevation nowhere is much over 2,200 feet) known as the Cordillera Amambay, Cordillera Urucury, etc. On the western side there is a more or less sharply defined edge; on the eastern side they send out broad spurs enclosing deep-cut valleys, so that the streams running towards the Paraná are interrupted by rapids and falls. The most celebrated of these is the Guayra Falls (*q. v.*). On the other hand, the tributaries emptying into the River Paraguay are generally navigable as far as there is sufficient depth of water.

With the exception of a large stretch of marshy country, near the confluence of the Paraná and Paraguay, and some other portions along the rivers, the soil is dry, porous and sandy, produced by the weathering of the red sandstone, which is the prevailing formation throughout Paraguay.

Traction. (See, "Electric Lighting, Traction and Power.")

Villa Concepcion, situated 200 miles above Asuncion, is the trading centre for the northern maté forests, and is the principal city in the northern part of Paraguay. Its population, according to the census

of 1886 was 10,902, and in 1899 this was estimated to increase to 15,000, inclusive of suburbs. Villa Concepción has a national college, custom house, good harbor, two banks, a branch of the Banco Agrícola, postoffice, street railway, telephone exchange and five hotels. Most of the yerba maté produced in Paraguay is exported here. Fine cattle are also raised in the district. Across the river from Villa Concepción, in the Chaco, is situated the English missionary station.

Villa Hayes. (See, "Colonies.")

Villa Igatimí is a settlement in the maté and hardwood forests of northern Paraguay, to which the projected railway is to run. (See, "Railway, Proposed.")

Villa Del Pilar is the most important city in the south of Paraguay. It is situated on the River Paraguay, 104 miles from Asuncion, opposite the mouth of the Bermejo River, and was the strangers' farthest limit into Paraguay under Francia's rule. Its population, including suburbs, is in the neighborhood of 10,000. The city has a national college, custom house, and branch of the Banco Agrícola, telegraph, postoffice and many other improvements. Its exports of oranges, vegetables, skins and woods are considerable.

Villa Rica, situated about 90 miles east of Asuncion is the second city of Paraguay, and the chief centre of the tobacco trade. It has about 12,000 inhabitants, according to a recent report made by J. N. Ruffin, United States Consul at Asuncion. Among the agricultural products of the district, in addition to tobacco, must be mentioned sugar cane, rice, maize, mandioca, maté, textile plants, oranges, cocoanuts and hardwoods. Among its industries are sugar factories, orange wine factories, brick and tile factories, distilleries and saw-mills. One of the national colleges is situated there, and it also has a branch of the Banco Agrícola, telegraph and postoffice. Carpenter, in his book on South America, states that Villa Rica is considered the most cultured town in the country. Its better classes live in large one-story buildings, roofed with red tiles, which form comfortable homes.

Villeta, situated about sixteen miles below Asuncion, has a population of several thousand, and is one of the largest exporting towns for oranges and tomatoes on the River Paraguay. There were over 40,000 head of cattle in the district, in 1899.

Vital Statistics. In accordance with the law of December 2, 1898, the gathering of vital statistics has been systematically begun in Paraguay, by what is known as the Registry of Civil State. A complete



and accurate record of births, marriages and deaths is hoped for in the near future.

Wages. (See, "Labor.")

War. The only war which Paraguay ever had, with the exception of the comparatively easy struggle by which it gained its independence from Spain, was the war of 1865-1870, into which the people were led through the ambition of their last Dictator, Marshal Lopez. He was a fierce but brave man, and died fighting, sword in hand. The Paraguayans, to a man, equalled their chieftan in bravery, and asked and gave no quarter in the terrible but unequal struggle against the combined forces of Brazil, Argentina and Uruguay. The census returns, before and after the war, even though we make allowance for all possible inaccuracies, show how bravely the sons of Paraguay died for their country and their mistaken leader. From 1,337,439 in 1857, the returns dwindled to 221,079, in 1873, including in the latter year, we are told, mostly old men, women and children, Over fifty thousand women and children were said to have died from famine and exposure in the forests.

It is true, no such war would be possible again. The new constitution of Paraguay does away forever with dictators. The people have learned their lesson well, and under wise rulers freely chosen by themselves, are determined to seek national greatness by peaceful methods only. (See, also, "History.")

Water is abundant in Paraguay, not only by reason of the generous rainfall, evenly distributed throughout the year, but owing to its many rivers, and to the springs which are to be found everywhere.

For purity this water supply is nowhere excelled. Analyses made of the waters of the river Paraguay, early in 1901, by two learned chemists, Ovidio Rebaudi, and Pablo Arata (the latter of Buenos Aires) agree in showing that this great stream is one of the finest and best bodies of water to be found in the world. We give herewith examples of these analyses. The first is by Dr. Ribaudi, and is an analysis of water taken from the river above Asuncion :

Hardness	{ Total Hydrostatics degrees (French)	1.0500
	{ Temporary	0.1500
	{ Permanent	0.9000
	Residue at 100 degrees in 10.000	6.2400
	Loss by calcination	1.8400
	Nitric Acid	0.0465
	Nitrous "	0.0000
	Sulphuric Acid	0.1598
	Calcium oxide	5.9864
	Magnesium oxide	0.1204
	Ammoniac	0.0060
	Chloride	0.4500

Permanganate of potassium employed for oxidizing organic matter	1.2600
Oxygen consumed for the same purpose	0.3243
Iron oxide	1.3012
Silex and insoluble substances	0.5198

The next is an analysis by Dr. Arata, of a sample of water taken from the river at Villa Concepción. It is as follows :

Hardness {	Total Hydrostatic degrees (French)	1.35000
	Temporary	0.15000
	Permanent	1.20000
	Residue at 110 degrees	6.54000
	Loss by calcination	2.54000
	Nitric acid	0.04826
	Nitrous acid	0.00000
	Sulphuric acid	0.33643
	Calcium oxide	0.75600
	Magnesium oxide	0.13691
	Ammoniac	0.00800
	Chloride	0.44375
	Permanganate of potassium used	1.83454
	Oxygen consumed	0.46400
	Insoluble substances and silex	1.02000
	Iron and aluminous oxide	0.48000

Water-Fall. (See, "Guayra Falls.")

Water Works. One of the most important and necessary projects to be realized in Asuncion, in view of its rapidly increasing population, is a good system of water-works and sewerage. The Government, realizing this fact, last year ordered its engineers to make practical studies of the whole subject. The engineers of the Paraguay Development Company will also carefully examine into the matter.

Weights and Measures. The metric system of weights and measures has been officially sanctioned in Paraguay, but the old system is still generally used, even in state documents issued as late as 1901. For this reason we append its equivalents here :

The Quintal	= 101.40 lbs. avoirdupois.
" Arroba	= 25.35 "
" Fanega	= 1½ imperial bushel.
" Cuadra (land measure)	= about 2 acres.
" Legua cuadrada	= 12½ square miles.

Wheat. The general impression prevails that the climate of Paraguay is not as well suited to wheat as to other products of the soil. This need be no drawback to the flour industry, however, as that cereal is grown in immense quantities in the neighboring Republic of Argentina, and its entry is permitted free of duty.

Winds. The wind blows from the south about 118 days during the year, and from the north about 103. From the east, it only blows about 44 days, and from the west hardly at all. Neither north nor south appear to obtain any definite mastery in any month, or season. The south wind is dry, cool, fresh and invigorating; the north wind is hot, moist and relaxing. Violent windstorms, generally from the south, average about sixteen per annum.

Winter. (See, "Seasons.")

Woods. A large portion of Paraguay is covered with dense forests, in which at least seventy kinds of timber fit for industrial purposes, are to be found. Some of these are as hard as iron, and the fine collection of samples in the Philadelphia Commercial Museum, shows that most of them are susceptible of a high polish and possess a beautiful grain. Excellent cedar woods and substitutes for mahogany can be found among them. The durability and powers of resistance possessed by the Paraguayan hardwoods are unequalled by any woods in Europe or North America.

Dr. Flagg, in a recent newspaper interview in Philadelphia, called attention to the fact that for use in cabinet work, rosewood easily holds the first place, and is abundant and cheap. The black laurel has all the appearance of ebony, and is more easily polished. There is a wood called in the native language tata-né, for which there appears to be no English equivalent. It has a beautiful yellow color, a very fine grain, with the most delicate veins. There is a species called taba, which is extremely flexible and can easily be made into bent wood furniture. Besides all these, and many more, there is a cabinet wood known that might be enumerated as female mahogany, which is extremely beautiful, very cheap, and easily worked. There are ten varieties of cabinet woods so heavy that they sink in water. Among the woods that are useful for dyeing and tanning purposes quebracho (*q. v.*) stands first.

In an enumeration of the trees existing in Paraguay, to which former U. S. Consul Hill called attention in one of his reports, 51 different kinds of timber were shown to be suitable for building purposes; 69 were medicinal, 43 ornamental, 15 useful for dyeing, and 8 were fibrous trees and plants.

Yerba Maté. The most important native industry of Paraguay is the growing of yerba maté, or Paraguay tea. This plant (whose botanical name is *Ilex Paraguensis*) is an evergreen shrub or small tree, which grows wild in what are known as the yerbales, especially in the north-eastern and eastern portion of Paraguay. It is also found and gathered in the Brazilian provinces of Paraná and Matto Grosso and in the Argen-

tine Province of Misiones, which are contiguous to Paraguay. The latter country, however, is the true home of the maté, which the natives had used from time immemorial when its great virtues were discovered by the Jesuit missionaries. These cultivated the tea in large plantations, but it is claimed that there is no advantage in this, so far as its qualities are concerned, although in recent years cultivation is again being tried to some extent.

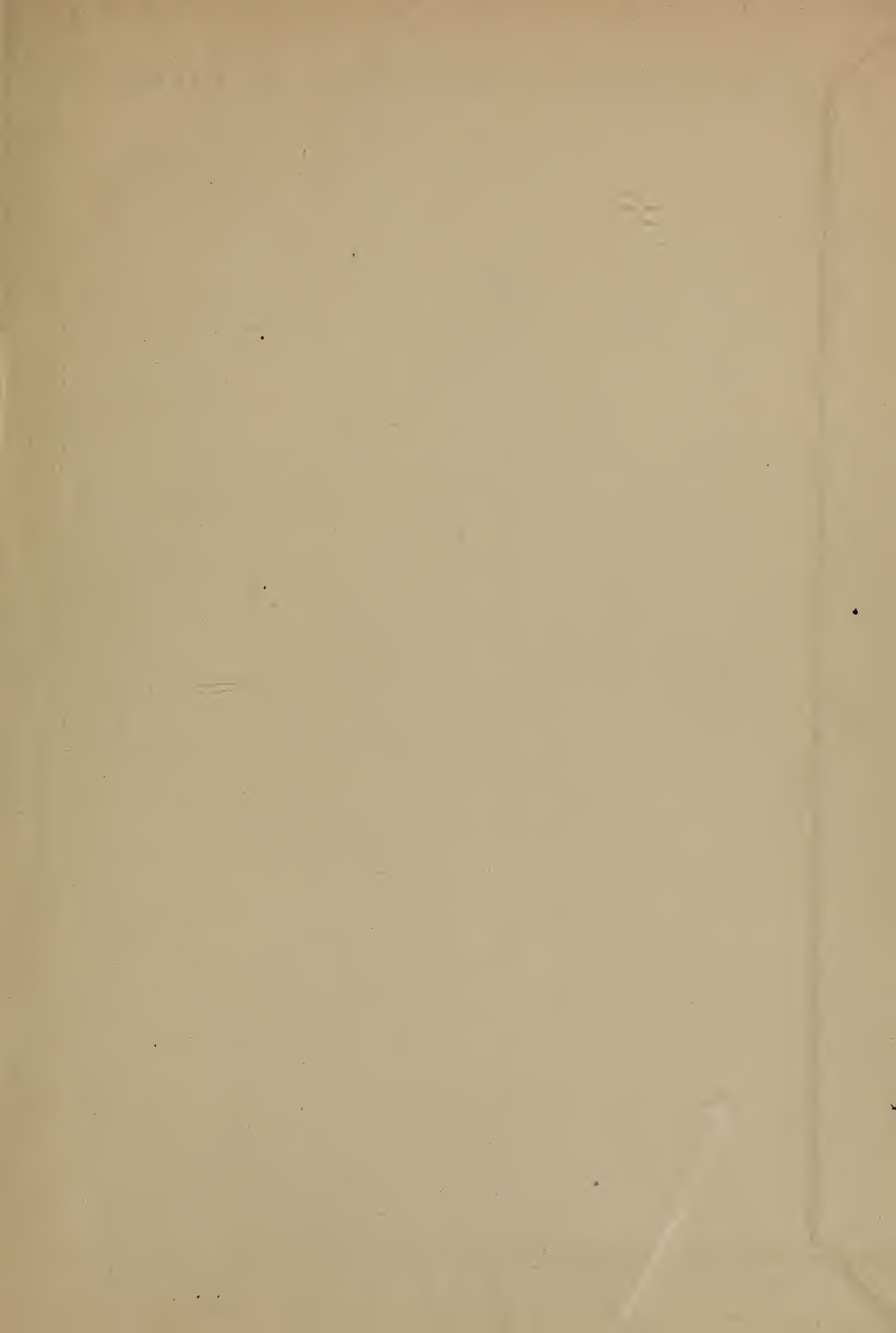
Yerba maté forms the largest article of export from Paraguay, and is sent to most South American countries. In 1896, 5,141 tons were exported, and in 1897, the amount was 6,548 tons. Some 20,000,000 people regularly enjoy this health-giving and strengthening beverage about which a whole volume might be written. Its introduction in the United States was begun in 1899, by the Yerba Maté Tea Company, of Philadelphia, which was incorporated under the laws of New Jersey, with a capital of \$100,000. The progress made by these efforts has been slow up to the present time, although many thousands of dollars have been spent in advertising yerba maté in the leading journals of the United States.

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